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# THE GLEANINGS OF BEE CULTURE

A JOURNAL DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

ILLUSTRATED SEMI-MONTHLY

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## STRAY STRAWS FROM DR. C. C. MILLER.

CARNIOLANS, says E. France, in *Review*, are the best bees for extracted honey.

REPORTS are coming in that white clover is starting nicely. We'll hope for next year.

IN RUSSIA, bees seem to be held as sacred—a thief who steals them being transported to Siberia.

MY HOME APIARY isn't as strong in bees as the other two. Neighboring cider-mills may have something to do with it.

A RUSSIAN authority has discovered that the bee is warm-blooded—its body 85 to 95°, and the cluster in winter from 50 to 53° F.

"WE ARE CONSIDERABLY out of pocket by clinging to golden bees as long as we have."—*Editor Quigley*. [Yes, I think so too.—ED.]

M. BERTRAND, the able editor of *Revue Internationale*, has observed that laying commences sooner in colonies weak in numbers.

IN SPITE OF the assertion that drugs do no good in foul brood, cures that appear credible are reported in *Revue Internationale* by the use of formic acid.

BEES SEEM to be partial to Given foundation, according to experiments reported in *Review*; but what kind of foundation is the Hunt that beats the Given?

SOMNAMBULIST thinks an apron with capacious pockets for carrying scissors, knife, etc., is a good thing in an apiary. I have one in my apiary. Emma wears it.

C. W. DAYTON describes a new escape, "the Stampede," in *Review*, which he says will pass 1000 bees per minute. I got one by mail, but didn't know where it came from.

AN EXPERIMENT reported by Doolittle, in *Progressive*, showed that a colony of 4000 bees working on apple-bloom would store a pound of nectar per hour; but by next morning the weight was reduced more than half.

E. FRANCE endorses R. C. Aikin's view, that the energy of a newly hived swarm is more apparent than real. What's gained in the swarm is lost in the parent colony.—*Review*.

EXPERIMENTER TAYLOR (*Review*) thinks bees prefer sections not wider than 1½—1¾, with separator. That's an argument in favor of the narrower sections used by Canadians.

REVIEWER HASTY says, "No matter how solidly I get combs built down to the bottom-bar, they'll not stay so many years." Can't you keep quiet, Hasty? I hear that enough at home.

A REVOLUTION has taken place in the views of bee-keepers as to what will prevent burr-combs. In replies in *A. B. J.*, 21 think correct spacing will do it, while only 2 think a honey-board necessary.

RAISING WATERMELONS is suggested by Somnambulist, in *Progressive*, as a good business to go with bee-keeping, as the raising and marketing of them comes before and after the busiest time with the bees.

DR. VON PLANTA says the ages of nurse-bees correspond with the ages of the larvae they feed, the youngest nurses feeding the youngest larvae. Drone larvae, needing the stronger food, are fed by older nurses from the start.

OBSERVER, in *Progressive*, thinks bee-keeping is more like gambling than any other legitimate occupation—the bee-keeper's always hoping to win next time. I don't like to be called a gambler, but there's no denying the uncertainties.

C. W. DAYTON says, in *Progressive*, that he has given up alighting-boards, preferring the old-fashioned fly-hole in the center of the front of the hive. I don't know whether such fly-holes are good for bees, but I'm sure they like them.

HUTCHINSON quotes Doolittle, and discusses the advantages of brace-combs, and ends up with "but, advantage or no advantage, brace-combs built against the sections or the receptacle in which they are placed can never be tolerated."

S. E. MILLER, in *Progressive*, raises the query whether nurse-bees eat eggs when rearing

queens. I don't know about that; but I know eggs disappear sometimes when a colony becomes queenless. Don't think they do if queens are being raised for swarming.

A BEE-SPACE—what is it?  $\frac{3}{8}$  of an inch will be answered;  $\frac{5}{8}$ ,  $\frac{1}{4}$ , and scant  $\frac{1}{4}$ . Perhaps a better answer would be, that space in which bees are least likely to put burr-combs or propolis. It used to be considered  $\frac{3}{8}$ , but gradually it has become less, and now  $\frac{1}{4}$  has the majority, I think. [That's right.—ED.]

LAST MONTH I spent a night with a bee-keeper at Lawrence, Ill., who made me feel uncomfortable. He keeps bees in old-fashioned ten-frame Langstroths, fusses less with his bees than I do, and I don't believe he knows more about bees. But he gets more honey than I. Low lands give him annually as much buckwheat as white honey, while I get none; but he beats me on white honey. Is it the location, the hives, or the management?

HERR REEPEN doesn't agree with the view GLEANINGS takes of the raking motion of bees—"dancing" the Germans call it. He says German bee-keepers in general consider it a mark of great prosperity, and readiness for swarming. D. A. Jones held it as a sign of swarming, I think within 24 or 48 hours, but I think no one else confirmed it. I think I saw only one or two colonies at it this year, and I don't think they were in condition to swarm. But my bees talk English, not German. [I have seen weak colonies in our apiary going through this washboard act. They were too weak to swarm.—ED.]



#### DO BEES TRANSPORT EGGS?

#### EVIDENCE THAT THEY DO.

By E. France.

At the time of the war I ordered an Italian queen of Martin Metcalf. He sent me a notice that he would send me the queen at a given date. About a week before the time named, I took the queen out of the hive that I intended to introduce her to. In just two weeks after, I received the queen. I put her into a wire cage, and then put the cage with the queen into the queenless colony. On the third day after, I opened the hive with the intention of liberating the queen. I looked the combs over again for queen-cells. I discovered a cell just started, with an egg in it. I made up my mind that the egg came from the queen that was then in the cage in the same hive. I took the queen out of the hive, to see what would come from that egg. It matured all right, and hatched

out a good Italian queen. There could be no mistake about it. That one queen was the only Italian I had. Whether the bees put the egg into an embryo cell, or had made the cell around the egg, I can not say. The egg could not have come from a fertile worker, as the colony consisted of black bees, and the egg hatched an Italian queen.

#### FERTILE WORKERS, AND HOW I GOT RID OF THEM.

Last spring I had two queenless colonies. I gave both of them cards of young brood and eggs, expecting them to raise a queen for themselves. Neither of them did it; but the fertile workers kept laying right along. I gave each of them brood enough to make a good colony, and still they were "no good." I finally got mad, and concluded to kill or cure. Then I loaded up my smoker with tobacco stems, early in the morning, when all were at home, and smoked them all drunk. Not a bee could fly. Then I took out all the bees and combs, and filled the hives up with another set of combs from other hives—brood and honey—the same as I would have done to make a new colony—but I did not give them any hatched bees. Then I took all the bees that were in the hives, or that had been in the hives, and carried them away several rods, and scattered them over the ground. As soon as they got over their drunk they came home, and the next day I gave each a virgin queen. These were accepted in all cases. What became of the laying workers, I don't know. I don't think they ever found their way back, so I think those laying workers are bees that don't go out, and perhaps never did, and so don't know the way back. I was pretty sure that that treatment would cure them. But as I had been putting in good brood from other hives, there were more or less of young bees in the hives, that had never been out, and, of course, they would not know the way back home. So I tried to cure them without, so as to save the young bees. But I will never do it again. As soon as I find I have a laying worker I will take the bees all out, and carry them off several rods, and throw them away. All the bees that have been flying will come back; then give them a queen, or brood from which to raise one; and if they are not strong, give them brood to strengthen them up; but if the colony is very weak, the best way is to use up the combs in other colonies, unless, as in my case, we are short of hives, and want to occupy that location; in that case, treat them as I have described. All that can be saved is the few worker-bees that are present with the laying workers, and quite likely these are few, and not worth much.

#### SMOKER FUEL.

After trying about all the different kinds recommended, we have settled down to straw and tobacco-stems—about half of each. We get the

tobacco stems at the cigar-factories. They cost nothing—in fact, we haul them on the place for fertilizers. The factory-men are glad to have them taken away. Straw and tobacco-stems make plenty of smoke, hold fire well, and the tobacco just takes the fight right out of the bees.

#### HOW WE STOP THE ROBBERS.

We have never failed to stop the worst case of robbing we ever had, providing the colony being robbed was strong enough to be worth saving. This fall, in taking off my three stories one morning I worked a little too long; and as I smoked the bees down with tobacco I got one colony pretty drunk. Like other drunken beasts they could not defend themselves. It happened that I went to town after working with the bees, and was gone two hours. When I got home the yard was terribly excited, all trying to find where the honey was. The bees were swarming about one quadruple hive, and were tearing away at three of the colonies in the hive just as fast as they could get in and out. In a case of that kind, something must be done, and done quickly, if we save the colonies that are being robbed. I had a large asparagus-bed. I took my scythe and cut a couple of armsful and banked up the hive-entrance with the tops, and then took my sprinkler and wet the tops of the asparagus with cold water, and kept it wet for an hour. By that time the robbers had quit trying to get in. I left them banked up for another hour, and then took away the asparagus-tops. Then the robbing was done, and the robbers never offered to trouble them again. I examined the robbed colonies about sundown the next day, and found that fully half of their honey had been taken out of their combs, so I exchanged their honey-combs for full ones and now they are all right.

I have fought robbers in this way a good many times, and always with success. They can not get in through wet stuff. The bees belonging there think it is a wet time, and stay at home. In the spring, before we get the asparagus-tops, I use straw. It is not so good, but will do.

Platteville, Wis., Oct. 1.

[While I was at France's recently, I believe he used the straw only, as the tobacco-stems did not seem to be on hand then. I was surprised to see it give such good smoke, and last so well. I should prefer to dispense with the tobacco, as it "scents" every thing up so.

Your method of stopping robbing I know will work, because we have tried it. Our plan is, to pull up a lot of long grass, strew it against the entrance, and sprinkle it with water. Wet asparagus, grass, or any thing of a bushy nature, dripping with water, seems to dampen the ardor of the robbers; for a wet bee is in any thing but a normal condition to fight. The inmates of the hive do not, of course, venture out, and are ready to tackle their antagonists—the latter at quite a disadvantage.—*Ed.*]

#### RAMBLE 119.

##### SANTA BARBARA TO LOS ALAMOS.

*By Rambler.*

From Santa Barbara we roamed along the sea-coast for over 40 miles, passing now and then the dried and whitened skeleton of a boom town. The town of Naples in particular had an uncanny appearance. All there was of it was a ghastly sign, "Naples," silhouetted in immense open letters against the seaward sky. For several miles the vision haunted us, but not to such a degree, probably, as those were haunted who had buried money there under the name of town lots.

At El Capitan we found a famous camping-place—a lonely canyon, noble oak-trees, a rippling stream. We retired here for a day, bathed the dust of travel from our bodies, wrote letters, and fixed up generally for our further progress. Fish were plentiful in the ocean at this point; in fact, much more plentiful there than on our table. We, however, did get a smack of them on our plates. Mr. Wilder brought out all of his fishing-tackle—great hooks and small hooks, and his rifle. With the latter he is exceedingly careless, as you will hereafter learn. This time, while hauling in his throw-line with a red-finned fish at the end of it, a seal, or sea-lion, so called—the kind that inhabit the Aña Capa Islands, and all the isolated rocks of this coast—bobbed its head above the breakers to get a new supply of air; but before he could bob it back again Bro. Wilder had carelessly fired a bullet through its head. That settled Mr. Seal to the bottom of the ocean. The peculiarity of seal-shooting, we learned, on Aña Capa Island, is that, when shot in deep water, they sink to the bottom of the ocean like so much lead. This one performed that same trick, to the chagrin of the shooter, and "me too." I didn't care so much for the seal as to see the manifest happiness of the shooter. All we could do, however, was to watch the crimson spot out there in the tossing breakers, and to hope for better luck upon our next specimen of big game. We seal-hunters find there is something startling, too, in beholding a seal's head bob out of the waters. The head and face have something of a human look, and one is liable to think he is in the presence of a genuine mermaid; but we seal-hunters get used to those things after a few shots, and mind it not.

In our strolls among the big trees we found evidences of bee-trees, and one had been recently cut and robbed, the bees still clinging to their no longer sweet home. The fact that it paid to cut a bee-tree for its sweetness showed that some honey was gathered here; but the flora visible would lead one to think that bees would ordinarily starve. While thinking of the bees and their product, at our next repast we brought

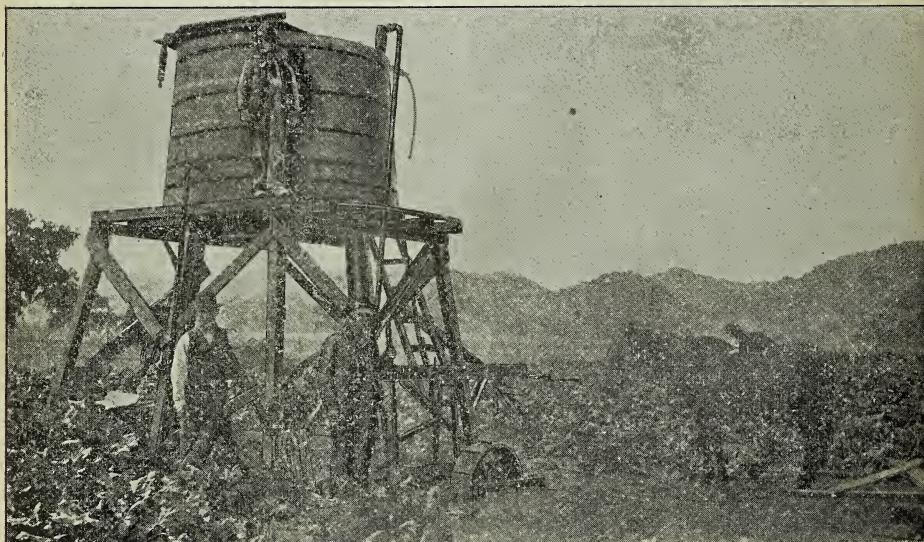
out a fine jar of honey that Bro. Mendleson had given us with his blessing, when we left him; and as spoonful after spoonful disappeared alternately at each end of our table, said I, in heartfelt tones, "May the shadow of Mendleson never grow less." "Amen!" said Bro. Wilder, in a loud and heartfelter tone.

After leaving El Capitan our drive was somewhat monotonous; our surroundings and the hills had a dry and parched aspect, while, on the other hand, the ocean appeared exceedingly wet. To wed these two extremes, and to make the land bloom (poetical license) with milk and honey, was a problem we studied upon for many miles.

"Why," said I, "Wilder, just think what a revolution that would make on all this coast—pump the water of the Pacific Ocean away back into the dry interior, and irrigate."

the moisture of the ocean slightly interrupted. At Gainotta Landing, which is also on the edge of the ocean, we turned an abrupt angle, and left the ocean behind us. We here approach the mountains, and find our way into the interior through the Gainotta Pass. Some time ago nature must have rent the mountains in twain here, for the pass is narrow, and immense masses of rock overhang the road in many places. Much could be written about this pass and its earlier history, but I can only mention that Fremont had an experience here with the Mexicans, but came out the victor.

The next obstacle in our way was the Santa Yñez (pronounced *Nez* here, or *Een-yaith* by Spaniards) Mountains, over which we climbed easily, crossed the Santa Yñez River, which is one of those bottom-up rivers—no water in sight; passed the old Santa Yñez Mission, in-



MR. HILTON PUMPING WATER, AND IRRIGATING SUGAR BEETS.

As I cast my eye as far as I could cast it in the distance, and could see no end to the water, "Why," said I, again, "we could irrigate all California ten feet deep, and it wouldn't take half the water in sight."

"Yes," says Wilder, "that's so; but what are you going to do with the salt?"

"Eliminate her," says I. That's the great problem. We did not have the necessary apparatus to make an exhaustive study of the matter, so we leave the problem with the bee-keeping public. There's "millions in it." Wilder and I have the tide-pumping engines all completed—in our eyes. All we want now to make the Golden State more golden is the eliminator.

There, now, I will get down to terra-cotta again, and go on with the original theme which

terviewed its ruined walls with the camera, and then passed into the great barley and stock country. The dry weather, however, had pinched the stock out into other fields, and the barley was a light crop except in a few favored localities. It was so short in Los Olivos that we could get none for our ponies, and for the first time on our journey they had short rations for their noonday meal. There is no bee-keeping here over a wide stretch of country. Cattle-ranches prevail, containing ten to fifteen thousand acres each. These large land-holdings are considered a detriment to the country. The owners will not sell into small holdings, and the chance for the increase of population is small. Disintegration comes, however, in many cases, when the original owner dies and leaves a dissipated son or family to man-

age it. It soon dissipates under mortgages, then there is a chance for the small farmer to step in.

At Los Olivos we encountered the whistle of the locomotive again, and followed the course of the rails and telegraph-poles more or less for a greater portion of a day, until we entered the town of Los Alamos. We had this town in mind for several days, for, among the few persons who are scattered here and there as bee-keepers in Santa Barbara Co. is Mr. Joel Hilton. Mrs. Hilton's name had appeared frequently in *GLEANINGS* and various agricultural papers, as a writer upon bee-keeping topics, and I was quite anxious to meet her as well as Mr. Hilton. After camping near our friend the blacksmith, inquiries revealed the fact that Mr. H. lived only half a mile from camp, and I hastened to hunt him up. Mr. H. being a *GLEANINGS* man, of course he knew the Rambler, and gave a cordial welcome. Mr. H. was irrigating his field of beets, and, after showing me how it was done with his honest old horse and home-made pumping arrangement, tank, dog, children, etc., I inquired for Mrs. Hilton, and I was pained to learn that she had crossed the boundary into the great future only a few weeks previously, leaving Mr. H. and his four children in mourning. The pall had not lifted from the home; and, as we find in so many cases, when a loved mother and adviser is taken away it is many, many months before the sunshine again lightens the home.

outside of this there would be but little bee-forage for several miles. Mr. H. has 300 colonies of bees, in three separate apiaries; and, though the yields are not ever so great as in our southland, they are more certain every year. He had never had his bees starve during a dry season. This dry year he did not expect to get much honey, but he was sure they would get enough to carry them through, and possibly he would get a little surplus. An examination of a few of his hives showed that he was correct in his diagnosis, for we found new honey in the combs. As a sample of what bees can do here, Mr. H. had at one time increased from 40 to 78 colonies, and taken 6000 lbs. of honey. In 1893 his honey crop was 24,000 lbs., from 100 colonies, spring count; increased to 170.

Mr. Hilton expressed himself as always a lover of the bees, and to the bees he owes a debt of gratitude for causing him to move from Iowa to this delightful country. His bees have been more profitable, considering the money and time invested, than his wheat-raising. In the latter crop a drouth might cause a total failure; the owner would be out many days of hard labor, with team, etc., also many bushels of seed; but in a drouth in the bee-business there are no outs—not even starved swarms, in his locality.

After our ride and talk with Mr. H. we settled down to business among the good people of Los Alamos. Over half of said good people are Spaniards of all degrees of color. Our duty



MUSICAL SPANISH FAMILY.

From observation as we entered the Los Alamos country, we pronounced it not a good honey locality. But a ride with Mr. H. one morning into the back country, away from the highways, brought us into a fine sage district, where the black and the purple sage seemed to thrive. Mr. H. informed us that, in this portion of Santa Barbara Co., the sages seemed to thrive in certain districts. Several square miles would sustain several hundred colonies, while

was, to take photographs of these dark people and make them look "alle-samee" white folks. We had a hard time of it, as will be seen further along. There were a few resident Castilian Spaniards, as white as Americans. Such a family of musicians we introduced to our camera, and they show such a phase of life among these musical people, in this country of blooming flowers and buzzing bees, that the artist will give the readers a wee bit of a picture of it.

## THE NEW BEE-DISEASE OF CALIFORNIA.

STARVATION, AND THE DIFFERENCE BETWEEN  
"WELL-SUPPLIED" AND "CONSTANTLY  
FED" COLONIES.

By C. W. Dayton.

I have watched, since early spring, 250 or more colonies having this disease, and, like others, I find it in some *well-supplied* colonies, but I do not find it to continue in *constantly fed* colonies. It was understood that Prof. Cook's cure was by constant feeding, so that the bees would be carrying honey about the hive every day; but where colonies are fed ten pounds to-day, and then no more for ten days or more, in six hours the feed will be deposited in the cells; and some colonies seem to be so miserly as not to remove it, even to save brood from starvation; or else such a method of feeding fails to cure them of their disheartened condition. But it seems to me possible to bring on a second attack, as hereafter suggested.

It is my opinion, that the larvæ do not always die because there is *no honey* to feed with, but because the bees *neglect* to feed it. They appear to be lazy or disheartened. It is plainly apparent, that, after a larva dies, the cell is not cleaned as it should be; but the dead larva dries down and remains in the cell, and, possibly, is the cause of the death of the next larva reared in that particular cell. It is noticeable that the larvæ live while there is plenty of food in the cell, but die about the time the food is exhausted—causing them to straighten out a little prematurely. In industrious colonies it disappeared when a flow of honey came; but in others, which were averse to storing honey under any circumstances, the disease existed in full force throughout the season. The exchange of brood-combs, with the industrious and the less industrious colonies, did not spread the disease. In giving a diseased (and at the same time a scantily fed or supplied) colony a new comb, in the first filling with brood many dead larvæ appeared. Then in feeding sufficiently to produce new combs, no dead brood appeared in the new comb, although it was situated between two old combs which contained a dead and rotten mass. There appeared to be this difference in the fed and unfed and new and old comb, and at different times.

Again, several queens of industrious colonies were exchanged for queens of the most diseased colonies; and now, after four months (time to change the bees), the disease is transferred—the diseased are now healthy, and the formerly healthy have become diseased. In other years I have known colonies to starve by the score; but while only one colony starved outright this season, 75 colonies lived 90 days with scarcely six ounces of honey in any hive at any one time.

BEE-PARALYSIS IN CALIFORNIA HEREDITARY  
FROM THE QUEEN.

Mr. McEvoy's advice, a short time ago, to

keep honey uncapped as a cure for the disease, accords with my observation and practice; but I do not agree that starvation is also the cause of paralysis. Neither do I think phenol a cure for either disease. A neighbor having 104 colonies afflicted with the new disease tried phenol in various ways, with no perceptible effect. I assisted in the operation. By this I do not mean that I visited his apiary and saw phenol used once, but I was there from a half to a whole day, for about 25 different times. It is sometimes remarked of horses that they lack or possess "horse sense;" likewise, I ascribe the cause of this new disease to the bees lacking bee sense. During all the season there have been colonies which were strong in number of bees, and in apparent good condition for storing honey; and, though I opened their hives often, they had not a pound of honey at any time, while other colonies near by stored above 100 lbs. in 1-lb. sections. It was wondered that they would swarm or rear queens at all, but they did both. Queens reared by such colonies invariably produced bees which tolerated the disease. A set of 12 queens, reared by such a colony by the Doolittle method, by the side of 14 reared by an industrious colony, are a shade darker in color. Some are perfect duplicates of the five-banded mother, while the others are exceedingly pale yellow, with a bluish tinge.

My neighbor has kept bees in California 25 years—5 years with Harbison—and "canned up" honey (as Californians put it) by the car-load, and he tells me that, in some apiaries, even in good years, he has seen from one-third to one-half of the colonies of this sluggish, unavailable kind of bees. I have thought, that often the large yields we hear of may have been due to the accidental gathering-together of a number of particularly good working colonies, instead of locality or management; and if there is such a vast difference in good seasons, how much difference must there be in starvation years like the present!

Then, again, suppose an apiary should happen to be all of such poor working bees. Such an apiary would not be worth the time taken to count the hives. As, well accept a herd of lame, blind, poor, and old horses while fodder is \$25 per ton; and the prospective and inexperienced apiarist buys them up and thinks he has a bonanza.

Several of Harbison's old assistants tell me that paralysis existed here early in the '70's, and that their cure was to change the old queen for a new one.

Florence, Cal., Sept. 25.

[Your explanation of the difference between well-supplied and constantly fed colonies seems to explain *why* starvation may not *apparently* but in reality be the cause of this dead brood. I hope it is the solution of the mystery, and why Prof. Cook's experience should be different from ours. With regard to bee-paralysis, I

think there is no question but that the queen is the primary cause. But it seems that, after it once gets started in some colonies and in some localities, her removal does not work favorably.—ED.]

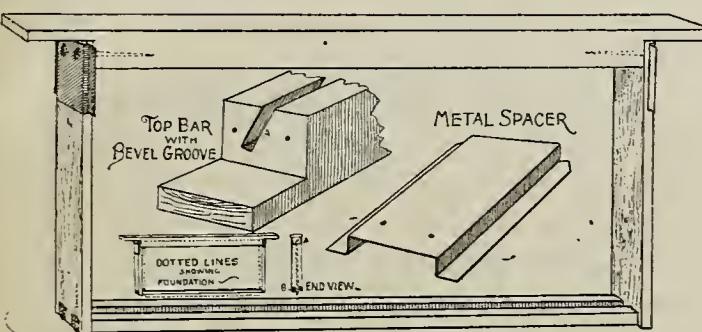
### THE PHENICIE SELF-SPACING FRAME.

#### FASTENING FOUNDATION, ETC.

By C. E. Phenicie.

*Mr. Root*—After reading Dr. Miller's article in GLEANINGS, Aug. 1, headed "Fastening Foundation to the Bottom-bar," I concluded to mail you each one of my self-spacing frames. The tin spacer should be heavier than the one I have mailed you; but my machine will not bend any heavier tin, as it is one that I made in a hurry, just as an experiment, and does not bend them very accurately, but will show the principle.

My claim for them is, that they space the same throughout the entire hive. I must raise objection to any spacer that projects half the space on either side of the frame, as the two outside spaces will be only half the width unless you tack pieces on the inside of the hive



PHENICIE FRAME AND SPACER.

and on the division-board, which does not appear to prove satisfactory. I raise two objections to the half or eighth inch space. First, should the queen be on the outside of the frame, near the top-bar, where there is generally a little sealed honey, she is liable to be crushed, as it crowds her into an eighth-inch space; but if she is down near the center or bottom of the comb, she will be all right.

Second, the bees will build brace-comb in this narrow space; then when this frame is placed between two other frames, the bees, instead of tearing them down, will continue them to the next frame; and those remaining on the side of the hive will be treated likewise. These spacers require no extra nailing, as the same nails fasten the frame also.

#### THE TOP-BAR.

The doctor speaks of grooving the top-bar. You will notice that mine is grooved also; but instead of the groove being square in the bar, it is on a bevel. The foundation, when being bent against the wires, binds on the edge of the groove, thus holding it secure. This is much easier and quicker than with the roller, and will not slip out and lap over, as I have been

troubled a great deal when sticking them on, and it always hangs in the center of the frame. I tried one without foundation, and the bees accepted the groove as a comb-guide all right; yet I can not say any thing about that, as I do not consider it a sufficient trial.

#### THE BOTTOM-BAR.

My bottom-bar consists of two bars, as there are two pieces  $\frac{1}{4}$  inch square, with about  $\frac{1}{4}$ -inch space between them. I have not tried the bottom-bars at all, as the thing occurred to me after it was too late to put any of them in; so I shall have to talk theory on this. But I have tried the top-bar and spacers quite extensively, and find them very satisfactory. My idea of having the two bottom-bars is, to let the foundation hang loose between them, and the bees are to fasten it there. As it hangs between the bars, it is always down to them, yet can not settle down on them and wrinkle, whether it stretches little or much.

Now, this is what I should like to have the bees do, and think it no more than right that they should do; but whether they will or not, is to be decided. I should like the opinion of some older heads on this frame.

Tacoma, Wash., Sept. 6.

[The objections that you urge do not hold true in practice. We do not find it necessary to tack pieces on the outside of the hive or division-boards, as you seem to think; and I do not remember that a queen was ever killed in our yard, nor have I heard of one being so killed. I have no doubt your metal spacers, however, will work very nicely; and perhaps in places where propolis is very bad they would separate more easily than the Hoffman widened end-bars. I hardly think your double bottom-bar, with a partition passing between, will work satisfactorily. The bees would fasten the wax to one or both the bars before much sagging would take place, I think, and buckling the result.—ED.]

#### FAX.

By Ellery Krum.

Caged four queens together by way of 'speriment, and the first one died in two hours; at the end of fifteen hours wuzen't left a single one alive.

Wuz transferrin' larvæ the other day and came 'crost two grubs growin' in the same cell. The biggest one wuz nearly three days old.

Best place to put cell cups is whare the bees put theirs—on the edges of the combs; and when you dip 'em mold the base to a sharp pint and it haint no trouble fixin' 'em in the comb.

Feed your bees airly as possible and make the sirup purty thin. If the bees git it capped over before it shows enny signs of granulashun it will keep as nice as hunny. I have a sample left over frum last yeer and it is good yit.

Two pounds of fine beeswax is the way my unfinished sectshuns turn out to the hundred. I'd ruther turn 'em into foundashun and gain

more in the long run than to sell hunny in tuff combs next year at a reduced price.

Nineteen out of twenty-three in the *A. B. J.* favored home market, and only one found it best to wholesale it. That's ezzactly my no-shun.

Put it on reckord that a queen will lay her first egg sometimes in a queen-cell; also for the first few days before matin' she often helps 'bout other work. I seen one help a worker, that wuz havin' sum diffikulty in hatchin', with as much koncern as a mother takes keer of her children.

You kin raze queens by the Doolittle plan without enny perforated zink as follers:—put a sheet of enameled cloth between the upper and lower stories, leavin' the cloth pulled back a little bit at one of the fur corners, placin' the frames at the opposite side. I have queens hatchin' now razed this way, and no surplus hunny comin' in either. By the way, this arrangement makes as nigh an independent colony "up stairs" as you can git it and still have kommunikashun with the lower story.

Physical defects, as a rule, is not transmitted to the offspring; this is why your fine breedin' queen might have bin mated to the scrawniest, skimpiest drone in the hull apiary fer all you know.

Some of us has come to think  
Burr-combs is a useful link  
Jinin' super to the hive,  
And that we should not kontrive  
Enny patent to prevent  
Buildin' of 'em, but kontent  
Our minds while the bizzy bees  
Boost themselves with better ease  
Up these ladders made of wax  
And save time; but it's a fax  
Bees build burr-combs jest because  
We have fixtures full of flaws  
That infringe on natural laws—  
But thanks! thick-top bars at last  
Konsigns burr-combs to the past.

Alexandria, Ind.

#### LARGE VS. SMALL HIVES.

SMALL HIVES PREFERRED FOR CUBANS; WHY.

By *Fred L. Craycraft.*

Since reading the articles on the hive discussion now going on in *GLEANINGS*, and having received inquiries from persons thinking of establishing apiaries in Cuba as to the size of hive and frame best suited to this climate, I will give the result of my observations, although I do not claim it to be the best for the North, where the conditions are so different.

It would naturally be supposed that a large hive would be best for the production of extracted honey, where we have such a warm climate and the honey season lasts so long; but it is just the other way, and I have come to the conclusion that a frame  $9\frac{1}{2}$  x 14, with 9 frames in the brood-chamber, and seven above for extracting, is about the right size. The brood-

chamber, being nearer square, is more economical of heat; and the frames, being slightly deeper, and not so long as the Langstroth, more nearly approach the natural instincts of the bees in building a circular brood-comb.

In most sections of the United States the flow of honey lasts only a few weeks; and brood reared after the honey-flow commences is of little value for honey-gathering; but here the honey season lasts almost three months continuously, making it necessary to keep the queens laying all they will; and as the honey-flow comes during the coldest weather, with the thermometer often hovering around the fifties, and good strong colonies sometimes carrying in eight or ten pounds of honey per day, it is a difficult matter to keep the queens from being crowded out, thereby greatly decreasing the working force toward the end of the season.

The above size of brood-chamber is as large as any good queen will keep stocked with brood; and, being small, it will preserve the warmth of the bees and thus stimulate the queens to lay more; while in a larger brood-chamber the heat would be unnecessarily expended in warming a lot of ends of combs filled with honey.

By using queen-excluders over the brood-chamber, another advantage is gained, as breeding is restricted during the summer, and the bees will fill the upper combs with honey after the extracting season is over, which greatly diminishes the work of feeding during September and October.

I am much interested in the "eight and ten frame hive" discussion, but I should like to hear what some of the "big guns" have to say as to the best size of frame; and has it been proved that the size and shape of the Langstroth frame is the best? I think there is plenty of ground for discussion upon that subject.

The hurricane which swept over this island on the 23d, 24th, and 25th of September, did great damage to the fruit-trees; and nearly all banana-trees, large enough to bloom, were blown down. And, again, from the 2d of October to the 6th the island was visited by an unprecedented rainstorm; and in all we had two weeks of high winds and rainstorms, which made it impossible for the bees to do any thing; and for the first time I have found it necessary to feed, as the bees were running short of stores.

As I also have charge of an apiary of stingless bees, consisting of nine hives, I have been making some experiments with the view of civilizing them; but I have not made much headway, although I have succeeded in increasing them artificially. I do not think they can ever be "elevated" enough to work in modern hives, as the brood-combs are built horizontally, and supported one above another by little columns of wax or resin, and the honey is stored in large cups or cells around the brood, as described by Mr. Pfau, p. 731, *GLEANINGS* for Sept. 15. The honey has a slightly different taste from that

of the honey-bee; and this taste, I think, is derived from the resinous wax in which it is stored. The bees are about half the size of the Italians. Their abdomens are black, with five narrow yellow bands crossing the back. They are a very pretty bee, but will never be valuable as honey-gatherers.

San Jose de las Gajas, Cuba, Oct. 16.

[I had always supposed that a large hive was better for a climate like that of Cuba; but for the sake of standard size I should be glad to think otherwise. Regarding the size of frame, the Langstroth, in ninety-nine cases out of one hundred at least, seems to give as good results as any other. While it seems to be as good, its particular shape gives it some peculiar advantages. But suppose we say it is no better; the mere fact that it is accepted as standard by common consent for nearly the whole of the United States, Canada, and Australia, is good reason why it should be adopted by beginners and others who are undecided. If other sizes or shapes of frames have decided advantages for certain localities, our columns are open for their discussion. After all, I have a feeling that, if you were to try the same capacity of hive in Langstroth frames, to the extent of 50 alongside of 50 of your own, you would not be able to detect any difference.—Ed.]

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#### NOTES OF BICYCLE TRAVEL.

By Ernest R. Root.

On arriving at Manistee I found that my relatives had all gone to Lake Onekama, some nine miles further north, and thither I went. This is a beautiful pleasure-resort—a lake in a valley, connecting with Lake Michigan.



Mr. Harmer and a number of others were successful in producing these small sections; and the honey when retailed, if I remember correctly, netted something like 40 cts. per lb., as against 15 or 20 for ordinary comb-honey sections. At the time of my visit at Mr. Harmer's he was not using these small sections. He found difficulty in getting the bees to always fill them out properly, for much depended upon the strength of the honey-flow to induce the bees to occupy such exceedingly small squares. We tried some of them at the Home of the Honey-bees, and met a similar difficulty.

Mr. Harmer is now, or was at the time of my visit, associated with his brother in growing fruit on a beautiful hillside overlooking the lake. There is scarcely a finer view to be found anywhere in Michigan, or in any of the other States, than this one at the Harmer fruit-farm. It was here that Walter had his apiary, and here he was experimenting with various new fixings. He was using the eight-frame Langstroth hive quite similar to our Dovetail hive. He finds that size of brood-nest large for his locality. He was not using frames, but a self-spacing device few years ago by Dr. Will. This device is simply a coarse, rather, a rake, as long as the hive, the teeth one inch square. Few rakes, or coarse, the

strips of canvas, folded, and sewed on a sewing-machine on one edge, making, as it were, a long tube about two inches in diameter. This was sewn to another tube of the same description until the required length of hose was secured. The whole is then soaked in linseed oil, when it is ready for use. Ordinary hose pipe of this capacity is very expensive; but for the purpose of irrigating, this home-made article is as good as any, and vastly cheaper.

By the way, I must not forget to mention that Mr. Walter Harmer has deserted the bachelor ranks, and taken unto himself a helpmeet. She seems to enter thoroughly into all his plans, and I have not the least bit of doubt that Mr. H. has done wisely in deserting bachelorhood.

Of course, I had a delightful time at this pleasure-resort during the short time I was there, stopping at the cottage of my uncle.

From Lake Onekama I went back to Manistee, and there took the steamer to Chicago. Although riding on a bicycle over Michigan is bad, it is not to be compared to feeling seasick, but so near it as to have no made up my mind that next time I a the wheel or cars.

Chicago late in the evening I just opposite one of those of which the *American* next morning I found Chicago water.

hands in silent protest. This proved to be none other than the one erected on the spot where that terrible Haymarket riot of May, 1886, occurred.

Neither Bro. York nor I knew the exact route out of the city to Marengo; but I made up my mind that I should find some one who would know the way; and, sure enough, I was fortunate enough to find a wheelman who was going out my way. He was the business manager of a large concern in Chicago, and was out for recreation. He had not expected to take more than a run on one of the boulevards, but he very kindly offered to pilot me out on the road that would lead me to Elgin, some 45 miles out. This, he explained, was a part of the celebrated century-road course taken by the wheelmen of the city, and, of course, it was just the one I wanted to take.

It is sufficient to say, that I got into Elgin in good time. But now the fun was in getting to Marengo. The wheelmen seemed to have conflicting ideas as to which was the best route. In fact, everybody I met along the way would say, after I had taken one way, that I ought to have taken the other. From the best information that I could get, I finally, at dusk, got within 12 miles of Marengo, knowing that I had still gone enough miles, if I had taken the right road, to have carried me to the home of Dr. Miller. Very fortunately, I found a friend who outlined for me very carefully the road I should take. He told me that I should follow that road and take the second turn to the right; pass two corners, and take the second road at the the next five-points. After I had gone once I inquired of a farmer the road to He told me that I should pass by turn and take the third, and with ice that it seemed to me he must was talking about. Of course, that I followed the advice of the took the wrong turn; but the bad that I knew it could any considerable size. I finally went back to anxiously looked out everybody n who told taken

to the home of Dr. Miller, having gone, as nearly as I could figure it, over 80 instead of  $65\frac{1}{2}$  miles.

I must not forget to give a "good one" on Dr. Miller. When I reached Marengo I was a little turned around, and had to inquire the way to the doctor's. Approaching a small boy I said, "Can you, direct me to the home of Dr. C. C. Miller?" "Oh! yes, sir," he replied. "You go down this road, pass over two hills, and then you'll come to a great big overgrown hedge-fence and a whole lot of weeds and things. This is the place. The house is back from the road, and the yard is all full of stuff. You can't miss it."

*To be continued.*

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#### CALIFORNIA ECHOES.

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*By The Rambler.*

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Glad to see progress on the sting-trowel theory. It now reaches the stage of supposition; next stage, 0.

What Mr. Pfau writes about Costa Rica gives me a desire to ramble in that country. Stingless bees and wax production, and various other things, seem to be fascinating subjects.

That is a dangerous subject you are touching upon now in GLEANINGS in relation to feeding sugar upon the absorption plan. It much simplifies the steps toward sugar comb honey.

Mr. Editor, Jr., that's a very true observation of yours about the openheartedness of keepers, or something to that effect. California on the wheel, and you will be in a social frame of mind of the California equalled by any.

Those who are investigating a plan can find such house according to nature's plan, a large hollow redwood, six or seven feet in diameter, won't

We still have a few more to go.

table-forks, and a board that might be termed his anti-boiler, smoker, jack-knife, etc.

I note that some one has discovered that the cutting-off of the stings of two or more queens will cause said two or more to live in harmony in the same hive, and lay eggs all the day long. Well, that's no new discovery after all. The Rambler mentioned the point—I don't say fact—somewhat over a year ago. The idea came from Mr. Williamson, a live bee-keeper of Redlands, Cal.

The Rambler came near having a wheel craze before starting on his tour of the State; but that squelched it for a while. As I near home again the craze seems to come on. But there is one insuperable obstacle, it seems. You who are expert can perhaps explain it away. How can I carry my  $6\frac{1}{2} \times 8\frac{1}{2}$  camera and tripod, plates, etc.? I must carry that camera. I guess the wheel must go.

We have heard many yarns about the immense amounts of honey found in caves in California; but it seems that the inventor has never investigated the redwoods. There are hollow trees, immense redwoods that would support colonies, and an immense but, of course, such colonies. The bees take to the

Blooming

States nearest the place of meeting seemed to have the least honey. This, doubtless, accounts for the comparatively small local attendance. There were not more than about seventy persons present during the convention.

Not the least profitable and enjoyable part of the convention was spent between the sessions, meeting face to face those whose names had become familiar, renewing old acquaintance, and making new ones. Right here let me say that, if any one stays at home from these conventions thinking he can get the full report in print, he makes a great mistake. The personal contact with other bee-keepers, and the interchange of thought and personality, face to face, is worth vastly more than the mere report of proceedings with full report of papers read.

Some practical and valuable suggestions were brought out in a discussion of questions from the question-box, which was taken up at

every session. On the question of what strain of bees were the most profitable

gatherers, the extra yellow (or five-  
were pretty generally scored.  
few advocates. There seemed  
difference between extra yellow  
honey-gatherers, the latter,  
any

prepare the food for the larvæ. The bees are generally located in a warm nook where they get the sun's rays, and, when the hives warm up, the bees fly out for water. If they have to go and hunt for it wherever they can find it, which is usually the case, they are likely to encounter cold winds which chill them so they can not return to the hive, and they perish; or the cold water they find may also chill them and prevent their return. Flying bees at this juncture are of the utmost importance, and this heavy loss of flying bees from being chilled in search of water is the prime cause of spring dwindling. The remedy is, to provide drinking-places for the bees, just as carefully as you provide for other stock. It is just as needful. Take a board about six inches square; cut grooves in the form of a cross, reaching nearly to each corner, and crossing in the center. Prepare a level rest for this board in a sunny place near or among the hives. Fill a one or two quart Mason jar with water, a little sweetened, for the first few days, till the bees get used to coming to the place. With cap removed, lay the board on the mouth of the jar with grooves next the jar. Then invert the whole quickly, and set the board on the rest provided, with the jar upside down on top of it. The bees sip the water from the grooves, which will be kept supplied from the jar as needed. The sun will warm up the jar of water as soon as the hives are warmed so the bees can fly out. They haven't far to go for their supply of water, and it is not cold enough to chill them, so they can return to the hive, and spring dwindling will be prevented. Mr. ~~W~~ said he had been using this plan for and has had no spring dwindling. ~~W~~ stopped the ravages of that malady as which were rapidly failing, was trace of the trouble since. ~~W~~ says, to find how took the use in a day. This bad to at least every any consol to provide finally bees, cattle, anxious: ~~W~~ eve. ex- n who ~s taken.

these were read at the convention, and all are to be published in full in the report of the meeting.

The constitution of the North American was taken in hand by a committee of five, and thoroughly revised and simplified. The old by-laws were entirely eliminated, the new constitution incorporating every thing that it was thought of sufficient importance to retain. A movement was inaugurated to increase the membership of the N. A. B. K. A. by offering something besides membership for the one dollar annual dues. A resolution was adopted looking to this end.

There were four applications for the next meeting—one from Lincoln, Neb., supported by various documents from the city organizations. A telegram from Denver, Col., signed by various commercial interests; an urgent invitation for Buffalo, from Vice-pres. O. L. Hershiser; and a strong plea for Toronto, Ont. As the last-named place had a partial promise of the convention at Chicago last year, it was decided to go there during the Toronto Industrial Fair, in September, when low rates of travel prevail, and a large attendance assured.

The officers elected for the coming year were: President, R. F. Holtermann, Brantford, Ont., editor *Canadian Bee Journal*; Vice-president, L. D. Stilson, York, Neb., editor *Nebraska Bee-keeper*; Secretary, W. Z. Hutchinson, Flint, Mich., editor *Review*; and Treasurer, J. T. Caver, Medina, O.

As has usually happened in the past we have depended on the certificate reduced railroad rates, we failed in sufficient certificates to secure the Notwithstanding the repeated president and secretary, not secure the certificates, and were presented.

One point was severing the convention: of encouraging of honey, especially of honey, especially of honey, the

arise, and did not take notes with that end in view. A brief report from the senior editor was expected, and may still reach us in time for publication in this issue. I have not attempted any thing like a full report, but have simply tried to give the main points of interest, and items which impressed me as being important.

In conclusion, let me urge those within reach of Toronto to begin now to plan to be present at the next meeting in September.

#### DISPOSING OF THE HONEY CROP.

AN ARTICLE READ BEFORE THE ST. JOSEPH CONVENTION,

By George W. York.

Page upon page has been written on the subject of marketing honey; for all realize that, unless it is well sold, there is no profit or remuneration for the labor and skill involved in its production.

A successful marketing of honey, its good quality, and suitable proper and satisfactory handling, these two very important factors then ready to seek the market.

Upon what market should that's the question' the home market or the foreign market?

down and thus be ruined, or the extracted-honey packages may leak, and in that way cause loss.

I fully believe that the best solution of the question will be found in the home market, where the producer can personally look after the details of the work; and, although unable to do the actual retailing himself, he can so supervise it as to realize the largest proceeds from the sale of his crop of honey.

Of course, it requires a good talker to sell honey, as well as any thing else that has merit which needs to be shown to the desired purchasers. But as nearly everybody likes to eat honey, it should not be such a difficult task to dispose of some in nearly every home visited.

As to the price to be asked, certainly the city market quotations should not govern; for, as I have shown, that market may have become ~~we~~ stocked, and for the time being the price from ~~to~~ such an extent that there could be ~~any~~ ev whatever to the producer.

136  
Lestren suggested that, unless a good price  
is obtained, the comb will not be secured. And there is  
a certain poetry in that hint, though,  
if the price is too high, there will also  
be consequently less money ob-  
tained by the producer's  
leaving the comb honey, in  
the hope of getting not less than  
the tax for \$1.

bee-keeper at a distance, but always being assured of his honesty and reliability.

I am sure that the home market for honey has undreamed-of possibilities for successful development; and the wide-awake, progressive twentieth-century honey-producers will find in it a veritable gold-mine in exchange for their pure golden honey—nectar fit for the gods, and hungry humanity's best food and medicine.

## KINGBIRDS.

## THEY EAT DRONES RATHER THAN WORKERS.

*By C. W. Dayton.*

Referring to your editorial about kingbirds, on page 767, I would say that none appeared in my locality until about the first of April, and then they came in numbers almost equal to blackbirds, and began a raid upon the drones and kept it up until about the 15th of July. I shot two or three hundred; and in examining a dozen or more I found drones in their crops every time, but no workers. But I found that they took workers occasionally from the flowers a distance from the apiary. About the middle of July they ceased catching bees entirely, and only bugs were found in their crops, although drones were flying at the same time. The California kingbird is about the same size as in the East, but is of an entirely different color, and has a very different song. They were here a month before I recognized them as old competitors in the bee-business. They seem to depend on this for a living here more than in the <sup>ing</sup> probably because of the dryer climate and scarcity of other insects.

## GETTING THROUGH EXCLUDERS.

an. happens getting through excluders  
trappe, ' mention the rearing of sev-  
ice es.

was tried a batch. Although the

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and uniform in size.

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bad to from one to four

any considerable. After fer-

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AKER

slow yield I can obtain as much or more comb than extracted. Such years as this the comb brings 10 cts. and the extracted 5 cts. per lb. Using full-depth story below, all the harvest, would give more extracted; but with shallow contracted brood-nest it gave more in combs. In fact, full story below, all through the present season, gave very little surplus of any kind. This was proven in my own apiary and neighbors'.

Florence, Cal.



#### FEEDING AT DR. MILLER'S.

#### HOW THE JOB WAS SIMPLIFIED.

By *Emma Wilson.*

Usually I have dreaded the time to come when I knew we should have to feed our bees. Nearly every thing about the house would be sticky, doorknobs included, to say nothing about the amount of work involved. But this year it has just been fun—not one bit of muss about the house. I have thought so many times, while we were feeding this year, "Oh how much extra work we have made for ourselves in former years, all for not knowing how!" Then I wondered if we were doing much hard work in other directions 'cause we did not know how, and if 't' the reason that bee-keeping was work.

I'm going to tell just what w' About the first of September apiary, and weighed each h' how much feed each c' winter. Just the hiv were weighed. v' der the recor' the weigh' varied fr' more th'

were what we happened to have handy to use for the purpose; and, when properly packed, they worked tip-top. I was the one who did the packing; and, when the most of them were packed, Dr. Miller thought I was packing them too tight. So I packed the rest much looser.

We fed the Hastings apiary first. We took along 24 feeders and 3 bags of sugar weighing 100 lbs. each. We also took along a tin pail holding 11 lbs. of sugar, another holding 4 lbs., a can holding 3 lbs., and another holding 1 lb. With these we could quickly measure the right quantity of sugar for each colony.

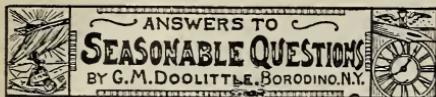
The first thing after reaching the apiary, we put on the feeders, leaving the covers off; and into each feeder the proper amount of dry sugar was put, the feeders being still left uncovered. After all the feeders were supplied with sugar, we poured on a pint of water each pound of sugar, put the covers came home.

The ones that were packed right, with the exception of a' after being used for a wh' the syrup would not pass t' lot—those that were not the water through too f' and more water had times, so that s' pints of w' v'

You know that, and you ought also to know that not only for cheapness but for the bees and the bee-keeper, a top-bar should be flat on every side. You recommend a top-bar  $\frac{1}{8}$  inch thick, to prevent brace-combs. I, at least, think that is why you make bars so thick. Brace-combs give me but little trouble. It's the burr-combs that are so troublesome; and a  $1\frac{1}{8}$  width of top-bar and  $\frac{1}{4}$ -inch space between stories practically fixes them. There's a limit to every thing. Frames were made to hold combs of brood and honey; and when we have gone beyond the requisite strength necessary, we have gone beyond the limits. If a top-bar is  $\frac{5}{16}$  inch thicker than necessary, it means that much waste on each and every frame, hive-ends, and hive-sides; lower story and upper (when extracting), or enough useless lumber to

make a board, and binding for a bee-escape. <sup>we stoo</sup> 'er thinks he wants a thick top-bar from <sup>the</sup> <sup>1</sup> to <sup>2</sup> to <sup>3</sup> to <sup>4</sup> to <sup>5</sup> to <sup>6</sup> to <sup>7</sup> to <sup>8</sup> to <sup>9</sup> to <sup>10</sup> to <sup>11</sup> to <sup>12</sup> to <sup>13</sup> to <sup>14</sup> to <sup>15</sup> to <sup>16</sup> to <sup>17</sup> to <sup>18</sup> to <sup>19</sup> to <sup>20</sup> to <sup>21</sup> to <sup>22</sup> to <sup>23</sup> to <sup>24</sup> to <sup>25</sup> to <sup>26</sup> to <sup>27</sup> to <sup>28</sup> to <sup>29</sup> to <sup>30</sup> to <sup>31</sup> to <sup>32</sup> to <sup>33</sup> to <sup>34</sup> to <sup>35</sup> to <sup>36</sup> to <sup>37</sup> to <sup>38</sup> to <sup>39</sup> to <sup>40</sup> to <sup>41</sup> to <sup>42</sup> to <sup>43</sup> to <sup>44</sup> to <sup>45</sup> to <sup>46</sup> to <sup>47</sup> to <sup>48</sup> to <sup>49</sup> to <sup>50</sup> to <sup>51</sup> to <sup>52</sup> to 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<sup>111</sup> to <sup>112</sup> to <sup>113</sup> to <sup>114</sup> to <sup>115</sup> to <sup>116</sup> to <sup>117</sup> to <sup>118</sup> to <sup>119</sup> to <sup>120</sup> to <sup>121</sup> to <sup>122</sup> to <sup>123</sup> to <sup>124</sup> to <sup>125</sup> to <sup>126</sup> to <sup>127</sup> to <sup>128</sup> to <sup>129</sup> to <sup>130</sup> to <sup>131</sup> to <sup>132</sup> to <sup>133</sup> to <sup>134</sup> to <sup>135</sup> to <sup>136</sup> to <sup>137</sup> to <sup>138</sup> to <sup>139</sup> to <sup>140</sup> to <sup>141</sup> to <sup>142</sup> to <sup>143</sup> to <sup>144</sup> to <sup>145</sup> to <sup>146</sup> to <sup>147</sup> to <sup>148</sup> to <sup>149</sup> to <sup>150</sup> to <sup>151</sup> to <sup>152</sup> to <sup>153</sup> to <sup>154</sup> to <sup>155</sup> to <sup>156</sup> to <sup>157</sup> to <sup>158</sup> to <sup>159</sup> to <sup>160</sup> to <sup>161</sup> to <sup>162</sup> to <sup>163</sup> to <sup>164</sup> to <sup>165</sup> to <sup>166</sup> to <sup>167</sup> to <sup>168</sup> to <sup>169</sup> to <sup>170</sup> to <sup>171</sup> to <sup>172</sup> to <sup>173</sup> to <sup>174</sup> to <sup>175</sup> to <sup>176</sup> to <sup>177</sup> to <sup>178</sup> to <sup>179</sup> to <sup>180</sup> to <sup>181</sup> to <sup>182</sup> to <sup>183</sup> to <sup>184</sup> to <sup>185</sup> to <sup>186</sup> to <sup>187</sup> to <sup>188</sup> to <sup>189</sup> to <sup>190</sup> to <sup>191</sup> to <sup>192</sup> to <sup>193</sup> to <sup>194</sup> to <sup>195</sup> to <sup>196</sup> to <sup>197</sup> to <sup>198</sup> to <sup>199</sup> to <sup>200</sup> to <sup>201</sup> to <sup>202</sup> to <sup>203</sup> to <sup>204</sup> to <sup>205</sup> to <sup>206</sup> to <sup>207</sup> to <sup>208</sup> to <sup>209</sup> to <sup>210</sup> to <sup>211</sup> to <sup>212</sup> to <sup>213</sup> to <sup>214</sup> to <sup>215</sup> to <sup>216</sup> to <sup>217</sup> to <sup>218</sup> to <sup>219</sup> to <sup>220</sup> to <sup>221</sup> to <sup>222</sup> to <sup>223</sup> to <sup>224</sup> to <sup>225</sup> to <sup>226</sup> to <sup>227</sup> to <sup>228</sup> to <sup>229</sup> to <sup>230</sup> to <sup>231</sup> to <sup>232</sup> to <sup>233</sup> to <sup>234</sup> to <sup>235</sup> to <sup>236</sup> to <sup>237</sup> to <sup>238</sup> to <sup>239</sup> to <sup>240</sup> to <sup>241</sup> to <sup>242</sup> to <sup>243</sup> to <sup>244</sup> to <sup>245</sup> to <sup>246</sup> to <sup>247</sup> to <sup>248</sup> to <sup>249</sup> to <sup>250</sup> to <sup>251</sup> to <sup>252</sup> to <sup>253</sup> to <sup>254</sup> to <sup>255</sup> to <sup>256</sup> to <sup>257</sup> to <sup>258</sup> to <sup>259</sup> to <sup>260</sup> to <sup>261</sup> to <sup>262</sup> to <sup>263</sup> to <sup>264</sup> to <sup>265</sup> to <sup>266</sup> to <sup>267</sup> to <sup>268</sup> to <sup>269</sup> to <sup>270</sup> to <sup>271</sup> to <sup>272</sup> to <sup>273</sup> to <sup>274</sup> to <sup>275</sup> to <sup>276</sup> to <sup>277</sup> to <sup>278</sup> to <sup>279</sup> to <sup>280</sup> to <sup>281</sup> to <sup>282</sup> to <sup>283</sup> to <sup>284</sup> to <sup>285</sup> to <sup>286</sup> to <sup>287</sup> to <sup>288</sup> to <sup>289</sup> to <sup>290</sup> to <sup>291</sup> to <sup>292</sup> to <sup>293</sup> to <sup>294</sup> to <sup>295</sup> to <sup>296</sup> to <sup>297</sup> to <sup>298</sup> to <sup>299</sup> to <sup>300</sup> to <sup>301</sup> to <sup>302</sup> to <sup>303</sup> to <sup>304</sup> to <sup>305</sup> to <sup>306</sup> to <sup>307</sup> to <sup>308</sup> to <sup>309</sup> to <sup>310</sup> to <sup>311</sup> to <sup>312</sup> to <sup>313</sup> to <sup>314</sup> to <sup>315</sup> to <sup>316</sup> to <sup>317</sup> to <sup>318</sup> to <sup>319</sup> to <sup>320</sup> to <sup>321</sup> to <sup>322</sup> to <sup>323</sup> to <sup>324</sup> to <sup>325</sup> to <sup>326</sup> to <sup>327</sup> to <sup>328</sup> to <sup>329</sup> to <sup>330</sup> to <sup>331</sup> to <sup>332</sup> to <sup>333</sup> to <sup>334</sup> to <sup>335</sup> to <sup>336</sup> to <sup>337</sup> to <sup>338</sup> to <sup>339</sup> to <sup>340</sup> to <sup>341</sup> to <sup>342</sup> to <sup>343</sup> to <sup>344</sup> to <sup>345</sup> to <sup>346</sup> to <sup>347</sup> to <sup>348</sup> to <sup>349</sup> to <sup>350</sup> to <sup>351</sup> to <sup>352</sup> to <sup>353</sup> to <sup>354</sup> to <sup>355</sup> to <sup>356</sup> to <sup>357</sup> to <sup>358</sup> to <sup>359</sup> to <sup>360</sup> to <sup>361</sup> to <sup>362</sup> to <sup>363</sup> to <sup>364</sup> to <sup>365</sup> to <sup>366</sup> to <sup>367</sup> to <sup>368</sup> to <sup>369</sup> to <sup>370</sup> to <sup>371</sup> to <sup>372</sup> to <sup>373</sup> to <sup>374</sup> to <sup>375</sup> to <sup>376</sup> to <sup>377</sup> to <sup>378</sup> to <sup>379</sup> to <sup>380</sup> to <sup>381</sup> to <sup>382</sup> to <sup>383</sup> to <sup>384</sup> to <sup>385</sup> to <sup>386</sup> to <sup>387</sup> to <sup>388</sup> to <sup>389</sup> to <sup>390</sup> to <sup>391</sup> to <sup>392</sup> to <sup>393</sup> to <sup>394</sup> to <sup>395</sup> to <sup>396</sup> to <sup>397</sup> to <sup>398</sup> to <sup>399</sup> to <sup>400</sup> to <sup>401</sup> to <sup>402</sup> to <sup>403</sup> to <sup>404</sup> to <sup>405</sup> to <sup>406</sup> to <sup>407</sup> to <sup>408</sup> to <sup>409</sup> to <sup>410</sup> to <sup>411</sup> to <sup>412</sup> to <sup>413</sup> to <sup>414</sup> to <sup>415</sup> to <sup>416</sup> to <sup>417</sup> to <sup>418</sup> to <sup>419</sup> to <sup>420</sup> to <sup>421</sup> to <sup>422</sup> to <sup>423</sup> to <sup>424</sup> to <sup>425</sup> to <sup>426</sup> to <sup>427</sup> to <sup>428</sup> to <sup>429</sup> to <sup>430</sup> to <sup>431</sup> to <sup>432</sup> to <sup>433</sup> to <sup>434</sup> to <sup>435</sup> to <sup>436</sup> to <sup>437</sup> to <sup>438</sup> to <sup>439</sup> to <sup>440</sup> to <sup>441</sup> to <sup>442</sup> to <sup>443</sup> to <sup>444</sup> to <sup>445</sup> to <sup>446</sup> to <sup>447</sup> to <sup>448</sup> to <sup>449</sup> to <sup>450</sup> to <sup>451</sup> to <sup>452</sup> to <sup>453</sup> to <sup>454</sup> to <sup>455</sup> to <sup>456</sup> to <sup>457</sup> to <sup>458</sup> to <sup>459</sup> to <sup>460</sup> to <sup>461</sup> to <sup>462</sup> to <sup>463</sup> to <sup>464</sup> to <sup>465</sup> to <sup>466</sup> to <sup>467</sup> to <sup>468</sup> to <sup>469</sup> to <sup>470</sup> to <sup>471</sup> to <sup>472</sup> to <sup>473</sup> to <sup>474</sup> to <sup>475</sup> to <sup>476</sup> to <sup>477</sup> to <sup>478</sup> to <sup>479</sup> to <sup>480</sup> to <sup>481</sup> to <sup>482</sup> to <sup>483</sup> to <sup>484</sup> to <sup>485</sup> to <sup>486</sup> to <sup>487</sup> to <sup>488</sup> to <sup>489</sup> to <sup>490</sup> to <sup>491</sup> to <sup>492</sup> to <sup>493</sup> to <sup>494</sup> to <sup>495</sup> to <sup>496</sup> to <sup>497</sup> to <sup>498</sup> to <sup>499</sup> to <sup>500</sup> to <sup>501</sup> to <sup>502</sup> to <sup>503</sup> to <sup>504</sup> to <sup>505</sup> to <sup>506</sup> to <sup>507</sup> to <sup>508</sup> to <sup>509</sup> to <sup>510</sup> to <sup>511</sup> to <sup>512</sup> to <sup>513</sup> to <sup>514</sup> to <sup>515</sup> to <sup>516</sup> to <sup>517</sup> to <sup>518</sup> to <sup>519</sup> to <sup>520</sup> to <sup>521</sup> to <sup>522</sup> to <sup>523</sup> to <sup>524</sup> to <sup>525</sup> to <sup>526</sup> to <sup>527</sup> to <sup>528</sup> to <sup>529</sup> to <sup>530</sup> to <sup>531</sup> to <sup>532</sup> to <sup>533</sup> to <sup>534</sup> to <sup>535</sup> to <sup>536</sup> to <sup>537</sup> to <sup>538</sup> to <sup>539</sup> to <sup>540</sup> to <sup>541</sup> to <sup>542</sup> to <sup>543</sup> to <sup>544</sup> to <sup>545</sup> to <sup>546</sup> to <sup>547</sup> to <sup>548</sup> to <sup>549</sup> to <sup>550</sup> to <sup>551</sup> to <sup>552</sup> to <sup>553</sup> to <sup>554</sup> to <sup>555</sup> to <sup>556</sup> to <sup>557</sup> to <sup>558</sup> to <sup>559</sup> to <sup>560</sup> to <sup>561</sup> to <sup>562</sup> to <sup>563</sup> to <sup>564</sup> to <sup>565</sup> to <sup>566</sup> to <sup>567</sup> to <sup>568</sup> to <sup>569</sup> to <sup>570</sup> to <sup>571</sup> to <sup>572</sup> to <sup>573</sup> to <sup>574</sup> to <sup>575</sup> to <sup>576</sup> to <sup>577</sup> to <sup>578</sup> to <sup>579</sup> to <sup>580</sup> to <sup>581</sup> to <sup>582</sup> to <sup>583</sup> to <sup>584</sup> to <sup>585</sup> to <sup>586</sup> to <sup>587</sup> to <sup>588</sup> to <sup>589</sup> to <sup>590</sup> to <sup>591</sup> to <sup>592</sup> to <sup>593</sup> to <sup>594</sup> to <sup>595</sup> to <sup>596</sup> to <sup>597</sup> to <sup>598</sup> to <sup>599</sup> to <sup>600</sup> to <sup>601</sup> to <sup>602</sup> to <sup>603</sup> to <sup>604</sup> to <sup>605</sup> to <sup>606</sup> to <sup>607</sup> to <sup>608</sup> to <sup>609</sup> to <sup>610</sup> to <sup>611</sup> to <sup>612</sup> to <sup>613</sup> to <sup>614</sup> to <sup>615</sup> to <sup>616</sup> to <sup>617</sup> to <sup>618</sup> to <sup>619</sup> to <sup>620</sup> to <sup>621</sup> to <sup>622</sup> to <sup>623</sup> to <sup>624</sup> to <sup>625</sup> to <sup>626</sup> to <sup>627</sup> to <sup>628</sup> to <sup>629</sup> to <sup>630</sup> to <sup>631</sup> to <sup>632</sup> to <sup>633</sup> to <sup>634</sup> to <sup>635</sup> to <sup>636</sup> to <sup>637</sup> to <sup>638</sup> to <sup>639</sup> to <sup>640</sup> to <sup>641</sup> to <sup>642</sup> to <sup>643</sup> to <sup>644</sup> to <sup>645</sup> to <sup>646</sup> to <sup>647</sup> to <sup>648</sup> to <sup>649</sup> to <sup>650</sup> to <sup>651</sup> to <sup>652</sup> to <sup>653</sup> to <sup>654</sup> to <sup>655</sup> to <sup>656</sup> to <sup>657</sup> to <sup>658</sup> to <sup>659</sup> to <sup>660</sup> to <sup>661</sup> to <sup>662</sup> to <sup>663</sup> to <sup>664</sup> to <sup>665</sup> to <sup>666</sup> to <sup>667</sup> to <sup>668</sup> to <sup>669</sup> to <sup>670</sup> to <sup>671</sup> to <sup>672</sup> to <sup>673</sup> to <sup>674</sup> to <sup>675</sup> to <sup>676</sup> to <sup>677</sup> to <sup>678</sup> to <sup>679</sup> to <sup>680</sup> to <sup>681</sup> to <sup>682</sup> to <sup>683</sup> to <sup>684</sup> to <sup>685</sup> to <sup>686</sup> to <sup>687</sup> to <sup>688</sup> to <sup>689</sup> to <sup>690</sup> to <sup>691</sup> to <sup>692</sup> to <sup>693</sup> to <sup>694</sup> to <sup>695</sup> to <sup>696</sup> to <sup>697</sup> to <sup>698</sup> to <sup>699</sup> to <sup>700</sup> to <sup>701</sup> to <sup>702</sup> to <sup>703</sup> to <sup>704</sup> to <sup>705</sup> to <sup>706</sup> to <sup>707</sup> to <sup>708</sup> to <sup>709</sup> to <sup>710</sup> to <sup>711</sup> to <sup>712</sup> to <sup>713</sup> to <sup>714</sup> to <sup>715</sup> to <sup>716</sup> to <sup>717</sup> to <sup>718</sup> to <sup>719</sup> to <sup>720</sup> to <sup>721</sup> to <sup>722</sup> to <sup>723</sup> to <sup>724</sup> to <sup>725</sup> to <sup>726</sup> to <sup>727</sup> to <sup>728</sup> to <sup>729</sup> to <sup>730</sup> to <sup>731</sup> to <sup>732</sup> to <sup>733</sup> to <sup>734</sup> to <sup>735</sup> to <sup>736</sup> to <sup>737</sup> to <sup>738</sup> to <sup>739</sup> to <sup>740</sup> to <sup>741</sup> to <sup>742</sup> to <sup>743</sup> to <sup>744</sup> to <sup>745</sup> to <sup>746</sup> to <sup>747</sup> to <sup>748</sup> to <sup>749</sup> to <sup>750</sup> to <sup>751</sup> to <sup>752</sup> to <sup>753</sup> to <sup>754</sup> to <sup>755</sup> to <sup>756</sup> to <sup>757</sup> to <sup>758</sup> to <sup>759</sup> to <sup>760</sup> to <sup>761</sup> to <sup>762</sup> to <sup>763</sup> to <sup>764</sup> to <sup>765</sup> to <sup>766</sup> to <sup>767</sup> to <sup>768</sup> to <sup>769</sup> to <sup>770</sup> to <sup>771</sup> to <sup>772</sup> to <sup>773</sup> to <sup>774</sup> to <sup>775</sup> to <sup>776</sup> to <sup>777</sup> to <sup>778</sup> to <sup>779</sup> to <sup>780</sup> to <sup>781</sup> to <sup>782</sup> to <sup>783</sup> to <sup>784</sup> to <sup>785</sup> to <sup>786</sup> to <sup>787</sup> to <sup>788</sup> to <sup>789</sup> to <sup>790</sup> to <sup>791</sup> to <sup>792</sup> to <sup>793</sup> to <sup>794</sup> to <sup>795</sup> to <sup>796</sup> to <sup>797</sup> to <sup>798</sup> to <sup>799</sup> to <sup>800</sup> to <sup>801</sup> to <sup>802</sup> to <sup>803</sup> to <sup>804</sup> to <sup>805</sup> to <sup>806</sup> to <sup>807</sup> to <sup>808</sup> to <sup>809</sup> to <sup>810</sup> to <sup>811</sup> to <sup>812</sup> to <sup>813</sup> to <sup>814</sup> to <sup>815</sup> to <sup>816</sup> to <sup>817</sup> to <sup>818</sup> to <sup>819</sup> to <sup>820</sup> to <sup>821</sup> to <sup>822</sup> to <sup>823</sup> to <sup>824</sup> to <sup>825</sup> to <sup>826</sup> to <sup>827</sup> to <sup>828</sup> to <sup>829</sup> to <sup>830</sup> to <sup>831</sup> to <sup>832</sup> to <sup>833</sup> to <sup>834</sup> to <sup>835</sup> to <sup>836</sup> to <sup>837</sup> to <sup>838</sup> to <sup>839</sup> to <sup>840</sup> to <sup>841</sup> to <sup>842</sup> to <sup>843</sup> to <sup>844</sup> to <sup>845</sup> to <sup>846</sup> to <sup>847</sup> to <sup>848</sup> to <sup>849</sup> to <sup>850</sup> to <sup>851</sup> to <sup>852</sup> to <sup>853</sup> to <sup>854</sup> to <sup>855</sup> to <sup>856</sup> to <sup>857</sup> to <sup>858</sup> to <sup>859</sup> to <sup>860</sup> to <sup>861</sup> to <sup>862</sup> to <sup>863</sup> to <sup>864</sup> to <sup>865</sup> to <sup>866</sup> to <sup>867</sup> to <sup>868</sup> to <sup>869</sup> to <sup>870</sup> to <sup>871</sup> to <sup>872</sup> to <sup>873</sup> to <sup>874</sup> to <sup>875</sup> to <sup>876</sup> to <sup>877</sup> to <sup>878</sup> to <sup>879</sup> to <sup>880</sup> to 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ople for the last three years. I am sure that the foot lever and spring will greatly increase the effectiveness of the machine. It is so simple that almost any one can work it.—ED.]



#### DO FIELD WORKER-BEES TRANSFER HONEY TO YOUNG BEES?

On page 731 of GLEANINGS for September 15th I find two questions referred to and asked of Doolittle; and, with the permission of the editor, I will answer them in this department, instead of using questions sent in, for this number of GLEANINGS.

The first is the one referred to me, instead of the editor's answering Mr. Churchill. Mr. C. says, "Some time ago I read how bees gave honey to the young ones that were too young to fly." I hardly think Mr. C. read accurately enough, for I have never known of any one who believed that bees too young to fly were of any service in the hive, unless straightening out and taking honey to help them do so could be called service. A bee can fly when from 12 to 20 hours old; and if a bee under this age ever enters into any of the work of the hive, I have never discovered it. The claim put forth, and the one to which Mr. C. alludes, I presume, is this: Except in times of abundant yields of honey, the field-bee, on arriving inside the hive, gives its load of nectar to some nurse-bee, rather than disposing of this load by depositing it directly in the cells of the comb. That this claim is correct, I have verified time and time again by laying beside a single-comb observatory hive, hours enough, when put together, to make days. If I mistake not, Elisha Gallup was the one who put forth or discovered this fact first, and the same can be found in the early volumes of the *American Bee Journal*. As I have told all of the minutiae of this matter several times in the bee-papers, I will not go into them here, except to say that, as soon as a loaded bee enters the hive from the field, it hunts around among the nurse-bees to find one which will take its load, putting out its tongue with nectar upon it to determine who will take it. If the nurse-bee who is thus approached does not have its honey-sac full already, we immediately see the nectar passing from the field-bee to the nurse-bee by way of the tongues of both. After a little resting, the field-bee goes forth to the field again, never as much as putting its head into or near a cell of the comb all the while it was in the hive. This nurse-bee may be anywhere from two to sixteen days old; and while of this age it is termed a young bee, although I have the impression, from my many observations, that the bees which do the

most of the evaporating of nectar are from six to fifteen days old.

Again, Mr. Churchill errs, or is not accurate enough, when he assumes that a new swarm is composed of old bees; for the truth is, bees of all ages go out to make up the swarm, as is very easily ascertained by any one who will use his eyes with the view of finding out about this matter. I have seen the ground in front of a hive that was casting a prime swarm, covered with hundreds of bees under 12 hours old, which tried to accompany the swarm, but were not able to fly, so they ran out on foot; and on hiving the swarm, a little inspection showed that it was composed of bees of all ages, from those 20 hours old, or the bees just barely able to fly, to those with ragged wings, just ready to die of old age. In this, as in all nature, God made no mistake when he showed bees how those of all ages should accompany the swarm when they heeded the mandate, "Go forth, multiply, and replenish the earth."

Once more: Mr. C. says, "I have always noticed, as I remove quilts from sections or extracting-combs, that almost every bee is an old one." I should like to know how he knows they are "old ones." If he will try the experiment of changing a black queen for an Italian about the 20th of June some year, noting the time the first Italian bee hatches, and on the forenoon of the 14th day from that time looking at the entrance of the hive, he will find none but black bees issuing from the entrance; while if he removes the quilt from the surplus-arrangement he will find nearly all the bees there to be Italian. If he does not so find it, his experiment will prove different from any I have ever tried, and I have tried such experiments several times. All the experiments which I have tried along these lines have proved Gallup to be correct when he gave this to be the rule in these things: "Three days in the egg form, six days in the larval form, and twelve days in the chrysalis form, making a period of twenty-one days from the egg to the perfect bee. Very warm weather will hasten the matter, while very cool weather will retard. The hatched bee does nothing but feed itself for the first day or two after hatching, when it commences to become a nurse-bee, preparing chyme for the larvæ, evaporating nectar, secreting wax, building comb, etc., till it is 14 to 16 days old. With a colony in normal condition, the young bee takes its first flight or playspell, marking its location, voiding its excrement, etc., when six days old, if the weather is favorable, doing this from 12 to 3 P. M., and continues these playspells occasionally till it is from 14 to 16 days old, when it goes out into the fields as a field-worker, does no more of the inside work of the hive after becoming a field-worker, unless forced to by a lack of nurse-bees from some reason, and dies of old age at from six to eight weeks from time of hatching, very few bees ever seeing

seven weeks of age during the working season." In the above, I may not have given the exact wording of Mr. Gallup, but have the substance, as I quote from memory, not having the time to hunt up the letter containing it, which he wrote me in the sixties. No beginner, or older apiarist, should be without the knowledge contained in the above from Gallup, for upon it hangs much that goes toward making the management of an apiary successful.

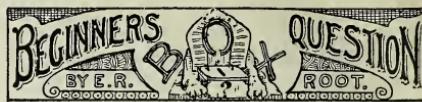
PURE ITALIAN BEES AND THE FIVE-BANDED STOCK.

The other question asked is by Mr. Low, and immediately follows Mr. Churchill's article, and reads as follows: "I should like to ask Mr. Doolittle this question: Can a five-banded queen be bred, or a queen whose bees are five-banded, from pure Italian queens?"

I unhesitatingly answer no, for the simple reason that there is no such thing as a *pure* Italian bee or queen, when viewed in the sense of a pure race or variety, as the German or black bee is pure. At best, the Italian bee is only a thoroughbred; and that these five-banded bees have been produced from what was originally only three-banded leather-colored bees is a good proof that the above assertion is correct. Perhaps it may be well for me to give right here a bit of history, which I have hesitated for a long time about giving, as I never wish to have a seeming desire to take away the laurels from any one. The history is this: In the early seventies, H. A. King, then of Nevada, Ohio, and Jos. M. Brooks, of Columbus, Ind., were breeding for yellower bees than the average importations of Italians showed. In 1872 I procured some of Mr. King's stock, and continued to improve them till near the eighties, the apicultural world having lost sight of Mr. King meanwhile. At that time, by exchange, I procured queens of Mr. Brooks, and afterward, by purchase, got the last of his very best stock, he going out of the business. In the early eighties I sold one of the very best queens I could raise, along the yellow line, to L. L. Hearn, Oakvale, W. Va., and he and myself have been breeding and exchanging "blood" more or less ever since. So far as I am aware, all of the so-called five-banded bees, of Italian origin, which are in the world to-day, came directly or indirectly from either Mr. Hearn or myself. Mr. Swinson, of North Carolina, produced five-banded bees, but did so by a promiscuous crossing of Cyprian, Syrian, Italian, etc.; but in the King-Brooks-Hearn-Doolittle bees the Italian side has been strictly adhered to.

[Some five-banded bees are gentle, and in every respect as good as the ordinary Italians; while others display all the characteristics of the vicious Eastern bees. Either some breeders are careless, or ignorant of the real source of their "five-banders." The Doolittle and Hearn stocks are gentle, so far as I know. After having had quite an experience with Cyprians and Holy Land bees I think I see in

some of the five-banders nearly all the bad qualities of their probable Eastern progenitors. It is those Eastern five-banders that are giving all the five-banders a bad reputation. See convention report elsewhere.—ED.]



*C. H.*, of *Ia.*, inquires whether it will prevent swarming to introduce a young queen. *Ans.*—No; but colonies with young queens are not quite so liable to swarm as those with older ones. See answer to *L. W.*.

*P. W.*, of *New York*, asks if drones are ever raised in worker comb. *Ans.*—Yes, very frequently, particularly if there is no drone comb available. Drones from fertile workers or drone-laying queens, are raised, as a general thing, in worker-cells.

*S. A. S.*, of *N. H.*, is bothered with an excess of drones and drone comb, and asks for a remedy. *Ans.*—Use foundation in full sheets for the brood-nest, and cut out or dispose of all your drone comb. Very few drones will be reared from a normal queen if nothing but worker comb is given the bees.

*D. S. J.*, of *Colo.*, asks how many pounds of honey there is in one of beeswax. *Ans.*—It varies in different localities, and during different seasons of the year. If I remember correctly, half an ounce of comb, on the average, will hold a pound of honey. When this comb is made from foundation, the weight is increased according to the weight of the foundation used, because the bees, it seems, do not do very much thinning-down of the septum.

*L. W.*, of *Va.*, asks whether bees can be kept from swarming by cutting out queen-cells. *Ans.*—The cutting of queen-cells only discourages swarming. For normal colonies run for comb honey, I know of no method that will absolutely prevent swarming invariably. For extracted, the matter is far easier. Giving lots of room, both to the queen for brood-rearing, and to the bees for the storage of honey, will generally prevent swarming.

*J. L.*, of *Kan.*, would like to know whether the drones of a pure Italian queen are all yellow, or whether there is an occasional one with a black band. *Ans.*—Drones of a queen producing the ordinary normal three-banded Italians are rather dark-colored, with a very little yellow. There is usually not so much yellow showing on them as on the workers from the same queen. Drones from the so-called five-banded Italian stock, in some instances, are nearly all yellow.

*J. D. B.*, of *Mich.*, wants to know if he can use percolator feeders as late as December, as described by Dr. Miller and E. R. R., in a recent

issue. *Ans.*—No. The mere fact that the syrup is made of sugar and water, half and half, makes the syrup so thin that the bees have got to thicken it, and this they can not do in cold weather. The syrup should be made in the old way, and fed thick, in the proportion of two of sugar to one of water. Better still, feed early—not later than the middle of October.

*D. E., of Ariz.*, says he has a colony that reared a queen, and, after she had been laying in the hive nicely for seven days, the bees ballied and killed her. He says that there was no robbing going on at this time, and that the bees were gathering alfalfa honey. He asks why the bees killed her. *Ans.*—There was probably something wrong with the queen. The bees can sometimes detect weaknesses or undesirable qualities in the queen sooner than the apiarist. If robbing had been going on we might surmise that a few of the outsiders were at the bottom of the trouble.

*D. J. P., of New Mex.*, having purchased an Alley trap, says the drones, as soon as trapped, die very fast in it, and wishes to know if this is as it ought to be. *Ans.*—Yes. The drones will not live more than a few hours after being trapped, according to our experience. They will worry themselves trying to pass the metal, or, what is probably true, starve to death. The trap is generally used for trapping out undesirable drones; and if undesirable, their early demise is not much to be regretted. If desiring to capture select drones for an out-yard, they should be fed and taken care of at once.

*F. C., of Mich.*, asks when is the best time to double up to get the most surplus. He does not wish to keep over 25 colonies, and these he would increase every summer to 50, uniting down again to 25 for the honey-flow. *Ans.*—I hardly know how to answer this question. Better keep down increase in the first place. If you must unite, I suppose you will have to do it just before the honey-flow; but, dear me! you will make them swarm fearfully if it is any thing of a honey-flow and you are running for comb honey. Of course, a good deal depends upon the size of your hive, and whether you will produce comb or extracted honey. The usual practice is, to let the bees alone, so far as uniting is concerned, until along toward fall—that is, providing the colonies are normal. If they are only half strength, of course it pays to unite in summer, providing you can do it without too much loss of bees, and this surely would be one trouble just before the honey-flow. Uniting can not usually be practiced satisfactorily except in the fall, when the days are too cool for the bees to fly much.

*O. B. K., of Me.*, is greatly troubled with robbing. He has about 30 colonies, and has lost five already. What is he to do? *Ans.*—First get the A B C of Bee Culture, or any other text-book, and study up on the subject of robbing.

But I may suggest right here that there are a few important things to be observed. See that the hive-covers fit tightly; that the hives are well made, and the joints tight-fitting—or, at least, bee-proof. After the honey season, if the colony is not of normal strength the entrance should be contracted. It should be contracted any way if robbing is progressing. If the bees get started badly on a colony, close the entrance nearly tight with grass. After a while, when robbing has quieted down, the grass will have wilted away and fallen out of the entrance. It is usually best not to close the entrance up entirely with blocks of wood. Even if you do not forget to take them away after robbing has quieted down, the bees are liable to smother. If you are careless about letting the bees help themselves to your honey-tank, you will have robbing all the season. Every thing containing honey should be made absolutely bee-proof. When you see bees buzzing around, and increasing in numbers around a can of honey or case of comb honey, do not be too sure that they can not get at it. If they continue to buzz around, you may rest assured that they are getting honey; and the only way to stop them is to find the place where they are getting in.

*G. P. B., of Ark.*, asks the following questions: 1. Is it ever necessary to extract from the brood-chamber to give the queen room to lay? 2. Will bees winter on buckwheat honey entirely, and rear healthy brood in the spring? 3. Is sorghum syrup a good feed for bees? 4. Will a populous colony store honey without a queen or brood? *Ans.*—1. Not generally, but sometimes it may be advisable. A better way is, to take out the combs of honey entirely, store them away for winter feeding or some future extracting, and put empty combs or frames of foundation in their places. 2. Yes, generally. Buckwheat honey was once considered unwholesome for bees; and while it is generally admitted that it is not as good as white honey, or, better still, sugar syrup, as a general rule the bees will go through on it in good shape. 3. In the South, sorghum syrup may answer; but as a general thing bee-keepers in the North prefer something else for a winter feed. 4. Yes; but bees usually have more vim when they have a good thrifty queen with them; but in order to prevent swarming, some bee-keepers remove the queen entirely during the height of the honey-flow—first, to prevent swarming, and, secondarily, to prevent the raising of a lot of bees that, later on, will be consumers. These bee-keepers are reported to get pretty good crops of honey.

My honey report for 1894 is as follows: Spring count, 140, poor and good; increased to 210, and have harvested 14,500 lbs. of extracted honey—half light and half dark. I live 16 miles from W. L. Coggshall.

S. J. SNYDER.  
Venice Center, N. Y., Oct. 9.



WINTER CASE; THE ADVANTAGE OF PROTECTION.

Four colonies in Dovetail hives, without any protection, consumed last winter from 12 to 13 pounds of honey each. One colony, protected with winter case, consumed 5 lbs. only. All colonies were about equal. A swarm from a protected hive has now filled 4 supers (96 lbs.). None of the others have filled two supers. I should like to hear, through GLEANINGS, from those who have experimented on this line.

Rumford, Va. R. F. RITCHIE.

A BEE-KEEPER'S HEAVEN.

This is the bee-keeper's heaven. I will state that I am a member of an American colony located on Topolobampo Bay, which is 200 miles south of Arizona, and on the eastern shore of the Gulf of California. I was in the bee-business in Southwest Missouri and Arkansas for 15 years; but this country excels any thing I have ever seen or heard of. There are no bees kept by the natives, so we have the field all to ourselves. We shipped our Italian bees from the States; and such rapid increase I never heard of before. I commenced last spring with seven colonies, and up to date I have taken 450 lbs. of extracted and 100 lbs. of comb honey; and up to this writing I have an increase of 30 colonies—37 in all—and they are still swarming. I expect to obtain 400 or 500 lbs. yet this season.

As there is bloom here every day in the year, I can extract all the honey they have the latter part of November, and they will gather enough to take them through the winter, and be strong to gather the cactus and mesquite honey, which excels any I ever saw before. In fact, all the honey that I have so far is of a superior quality.

Extracted honey sells here readily for 25 cts. per lb., and comb 30 to 40.

I can not help feeling sorry for persons in your cold climate, where you have to winter your bees in cellars, and often feed a great deal of syrup to get them started up in the spring, while here all we have to do is to keep our bees well shaded, and nine months of the year they are producing a surplus, and the other three they are self-sustaining, without any of your chaff cushions or any thing else.

The bee-pasturage here is almost unlimited. There are seven species of cactus (all honey-producing), and some of them are in bloom nine months of the year. One variety, designated *acho*, which grows to be quite a large tree, and the mesquite-trees, furnish more honey than any other two varieties. There is such a constant flow of honey that we are not troubled with robbers; in fact, all the extracting I have done so far has been in an open shed within two

rods of my bees, and I was not interfered with at all.

W. F. BRAGG.

Topolobampo, Mex., Sept. 16.

SWARMING A HABIT; BREEDING OUT THE MANIA.

Perhaps the facts I wish to relate in this communication will be interesting to your readers. I am a strong believer that almost any natural trait, or even physical structure in the animal or insect world can be changed after a few generations. That is, cows may be dehorned until their calves will all come hornless; dogs "detailed" until puppies all come tailless; bees prevented from swarming until they cease swarming entirely, etc. I have a practical illustration in this line this season in my bees. I have been in the habit for the past eight or ten years, with the few colonies I keep, of preventing spring swarming; and in August, after the spring flow of honey, to "divide up" or artificially swarm them. My bees have almost ceased their attempts to swarm in spring. This year only about two attempts were made in 30 colonies. The honey season being a total failure, I concluded not to increase this August; and being busy with my farm work, I paid no attention to my bees, supposing they were all right, as I had built them up very strong. I could hear of swarms now and then since August 1st, hanging out on trees near my apiary, but thought little of it, as I would glance through my colonies every day or two, and find all stands occupied. Finally last week a fisherman came where I was at work and reported two swarms on the creek-bank, hanging on bushes. I went as promptly as possible, expecting to find a "poverty" swarm or two, and, hastily looking through the apiary, I found bees in every hive. I was completely puzzled. One swarm had flown to parts unknown before I arrived. I hived the other, and it is doing well, apparently. I see now clearly I have lost many swarms, and they are still swarming, or trying to. How else can this late swarming be accounted for, except as above stated?

H. A. HALBERT.

Coleman, Tex., Aug. 26.

[We do not know about dehorning cows and detailing dogs, and what the probable consequence would be; but we have faith in the possibility of breeding out the swarming mania to a very great extent. James Heddon and others are sanguine of good results in this direction, and, indeed, something has already been accomplished.—Ed.]

WILLIE ATCHLEY'S CELL-CUP PLAN A SUCCESS AGAIN.

With Willie Atchley's cell-cup plan I have had some success. When I was nearly through rearing what queens I needed this summer, I concluded to give Willie's plan a trial. Like Mr. F. Low (p. 731) I made a stick by Willie's directions, except that the worker-cell was a little larger. I gave to a colony which had a

laying queen, six cocoons (in the proper part of the hive, of course), and four of them were accepted and finished. Perhaps all of them would have been accepted had I cut out a piece of comb, *a la* Willie Atchley (1893, p. 600); but hating to mutilate a fine brood-comb I pared down a square inch or over of cells on the comb, and, when I pulled the cocoons out with those tweezers I bought of you, the rims were too high. So I had afterward to cut and fix the single cocoons as well as I could; but the result was not very satisfactory, the rims being more or less uneven; and some of them, no doubt, too high. Had I practiced this cutting a little before, I should have done better, of course; and Mrs. Atchley, indeed, writes to me that it is not necessary to cut out pieces of comb. Mr. Low says that, in his opinion, the shape and size of the cell-cup stick is quite important. Well, after I had made the above trial I sent Willie what I thought it was worth, and in return he forwarded me a stick of his own make. So for next season's trial I am in possession of the stick.

Willie, in *GLEANINGS* of 1893, as well as Mrs. Atchley in an article in the *American Bee Journal*, says that, on an average, two-thirds of their cells are accepted. In a letter to Mrs. Atchley I remarked that Mr. Doolittle's averages were higher, and that perhaps Willie's way of leaving a colony queenless and broodless only "till the bees mourn," instead of, like Mr. Doolittle, having them queenless for three full days (72 hours), had something to do with it. In her answer, Mrs. Atchley says that it is better, indeed, to wait three days. I see now that Willie, on page 730 of *GLEANINGS*, recommends having the colony queenless and broodless for 48 hours—a day, or a day and a half longer than he formerly advised, but a day less than Mr. Doolittle, Mrs. Atchley, and others think to be best.

CHARLES NORMAN.

St. Petersburg, Fla., Sept. 24.

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SOMETHING OF INTEREST TO HEALTH-SEEKERS;  
FLORIDA'S HONEY RESOURCES.

In *GLEANINGS* for June 15, 1893, in the department of Wants, a subscriber from Gehm, Mo., wishes information as to the whereabouts of a climate with effects beneficial to throat and lung ailments; also to obtain employment in said climate. I will answer all inquiries with the greatest of pleasure. Wife, daughter, and I came here ten years ago on account of our health. My wife and daughter have not seen a sick day, and we have had no reason to call a doctor.

During the four years when the army officers watched the thermometer on the east coast of Florida, the highest point reached was 95, the lowest 35. The weather here in winter is delightful—about like our Indian summers in the North. We tried to keep a few bees when we

lived in Massachusetts; but what were not killed outright by the cold winters came out looking as though they had been soaked in a swill-barrel all winter. When we started for Florida we had just one colony left. We brought it with us. Last spring we had 95, spring count. We have taken out this season 31,500 lbs. of very fine honey, and increased to 150 colonies. The bees are flying almost every day in the year.

E. A. MARSH.

Oak Hill, Fla., Sept. 35.

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PROF. COOK AND THE FRUIT-MEN.

Please find inclosed a few clippings from the *Los Angeles Times*. It is very interesting to know with what interest Prof. Cook is coping with apicultural work; yet the reporter says this paper aroused a deep interest, and a general discussion followed. While all acknowledged bees an important factor in cross-pollination, an argument was raised against them, as they are known to be destructive to ripe fruit, notably the pear, apricot, and grapes, frequently destroying whole crops. The assertion is emphatically a mistake—yes, it's that old-time mistake which is still limping about like a crippled hopper. I am not entirely ignorant of the fact that a few would still have bee-men understand that bees do puncture grapes, cut holes through bee-hives, enlarge their entrances, and that they are capable of performing a great variety of other tricks. Bees do not destroy ripe fruit, unless some fruit-men are too careless or slothful in business; consequently the responsibility is thrown upon the shoulders of bee-keepers. Nor do the bees molest the fruit unless the fruit is over-ripe, cut into, and mutilated by our fruit-destroying birds, the linnets, wasps, yellow-jackets, etc. The linnets are certainly very annoying, and destructive to our apricots, figs, etc., and I have found them very destructive to our late crops of raisins. Why not petition the State to offer a bounty on the linnets, and give the boys something to do? ALBERT UNTERKIRCHER.

Redlands, Cal., May 15.

[The foregoing, as will be seen by the date, was overlooked. Having now come across it I take pleasure in presenting it, even at this late date, for the valuable facts it gives.—ED.]

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BEES HAVE DONE FINELY.

Bees have done finely; 1400 lbs. from 26 colonies, spring count; 16 new swarms, good for winter. So far as heard from, it has been thus all over Delaware Co. Some hives have 80 lbs. Groton, N. Y., Oct. 3. E. M. KELLOGG.

You say in the A B C book you would be glad to tell where bees get propolis. They get it here from the sweet-gum tree, as a few minutes' chewing will prove. J. W. LANIER.

Grenada, Miss., Sept. 14.



THE indications are, that the bicycle will be cheaper another year. That will stimulate the out-apriary business.

WHEN J. T. C. came home, one of the first questions I asked him was what the convention did about the constitution. They revised it, striking out the objectionable features, and incorporating some new and valuable ones. It is a pleasure to know that there are no dead-letter features now in the constitution.

WE have been having remarkably pleasant weather in our locality for the past three or four weeks. Indeed, a pear-tree in our back yard does not know any better than to bud and bloom. Half the bees in our apiary are rearing brood, a good deal as in an open warm spring. If the cold season should come on gradually, this weather will be all right; otherwise it may prove to be a serious setback to the bees.

THE statement is going the rounds of the press, as though it were something positively wonderful, and never before heard of, to the effect that two queens were *actually* living together in harmony, in an observatory hive on exhibition at an apicultural show in Vienna, and that thousands of visitors can attest the proof of it. We don't doubt it at all. This same clipping desires bee-journals to take particular notice of it. Of course, our readers know that it is not an extraordinary thing to find two queens in a hive, both performing their regular duties.

OUR bees are all in winter quarters; and those in the home apiary, at least, have been fed six barrels of sugar. After our honey-flow, scarcely a drop of nectar came in. What was in the hives was consumed in brood-rearing; and the result was, we had to feed nearly all our colonies, many of them full feeds. All the syrup fed went either through percolator feeders or through a percolator uncapping-can, which was afterward fed in the usual way as thick syrup. This syrup in the combs is very nice. I have not the least doubt it will be entirely free from all traces of granulation.

I HAVE before me a beautiful photograph, 8x10, showing the members of the North American Convention, as they had assembled on the court-house steps in St. Joseph. In point of clearness, good focus, and good likenesses of the members themselves, I think no picture heretofore taken of the members of this society is quite the equal of it. Each member of the convention has a number-tag attached to the coat

or dress, as the case may be. At the bottom of the picture is the name of each person, the number corresponding to the one in the picture. Mr. W. Z. Hutchinson, editor of the *Bee-keepers' Review*, Flint, Mich., has the pictures for sale, for 75 cts.

THE marriage of Edith Osband and John H. Larrabee took place on the 30th of last month at Lansing, where the groom has been living for some time. Mr. L. was formerly of Larrabee's Point, Vt., where he carried on bee-keeping very successfully. He was one of the leading bee-keepers of his State, and was several times chosen secretary for the Vermont Bee-keepers' Association. Although I had formed a high idea of him from his various bee-writings, it was not until I met him on my first bicycle-tour in 1890, at Lake George, that I understood what a good fellow he was. When the government apicultural station was instituted at Lansing, my opinion of the best and most available man for the place was asked. I recommended John H. Larrabee, and it was not long after that I learned he was awarded the appointment. That he filled the position well and faithfully, we all know; but it seems that a kind Providence had something more in store for him at Lansing—the wooing and winning of a "best girl in the world." I congratulate you, Bro. John, on your good fortune.

#### PREVENTION OF SWARMING, AND LARGE COLONIES.

I AM coming more and more to believe in the prevention of swarming by the use of large hives, or two eight-frame stories as one hive. At our out-yard those colonies whose queens were allowed their freedom in both upper and lower story stored considerably more honey in proportion than those confined to a single story. None of the former required feeding for winter, while all the rest did; and none of these big colonies swarmed or showed the least indication of it. They just kept right on piling in the honey during the unusually heavy flow from basswood. At present I incline toward two-eight-frame bodies instead of one large brood-nest all in one large body, for this reason—that there are some localities and some seasons when a single eight-frame hive-body would be quite large enough.

Now, I may be wrong; but from present indications the straws seem to be blowing this way; and I hope our readers will experiment along this line, and report results for next season. Or if you have had experience this season, speak out.

#### DO BURR-COMBS AFFECT THE AMOUNT OF HONEY?

HUTCHINSON, in the *Review*, referring to the statement of Doolittle that burr-combs were worth 50 cts. per colony for honey, mentions an experiment that rather offsets it. He at one

time ran out of slat honey-boards during a honey-flow; but nevertheless he put on the supers and let the bees build their burr-combs. As between those colonies with honey-boards and no burr-combs against the sections, and those without the boards and the burr-combs, he says he could see no difference in the amount of honey produced; but a big difference in the trouble in getting off the supers from the last named. He concludes that burr-combs can not be tolerated. When the thick top-bars were being gradually introduced into many apiaries several years ago, there was a splendid opportunity for comparison on this burr-comb question right in the same apiary. Reports were not wanting at the time, that, while there were practically no burr-combs built over the thick bars, their presence did not interfere with the amount of honey produced. Well, now let these same persons, or others who have had opportunity for comparison, report.

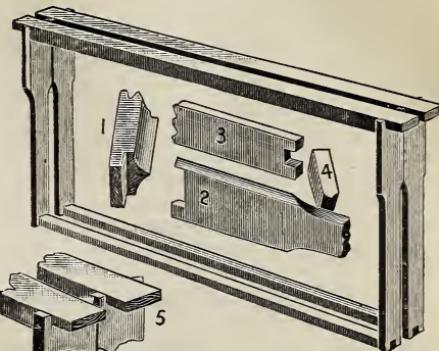
THIS NUMBER GOTTEN OUT UNDER DIFFICULTIES.

LA GRIPPE has been holding me down for a few days, and it "gripped" a hold of me in a way that it never did before; but between the doctor, good wife, and me, we have made it release its hold, and now I am rapidly building up again, and I hope I shall be none the worse for the "fun." Our little four-year-old boy had, almost simultaneously, an attack of congestion of the lungs; but, by the general noise and clatter and scattered playthings in an adjoining room, it is evident that he now is quite himself again. What *would* we do without these wives and mothers sometimes? Well, much of the matter for this number has been prepared while on my back, or half reclining in an easy-chair, "over home." I am still making my headquarters at the aforesaid place, with GLEANINGS copy and general correspondence scattered around that easy-chair. By the aid of a telephone to the office, the occasional visit of one of the stenographers, and of some of our helpers, I get along very nicely. At the present rate I shall be in the office in a few days.

IMPROVEMENTS IN BEE-HIVE CONSTRUCTION FOR 1895.

ON another page, in the department of Trade Notes, will be found a valuable criticism from A. B. Anthony, on the subject of thick top-bars. Since writing the footnote, which was some time ago, as you will see by the date of the article, we (John and I) have concluded, from letters received from other sources, and careful inquiries that I have made at various apiaries I have visited, that  $\frac{5}{8}$  inch is thick enough for all practical purposes, and that top-bars of that thickness,  $1\frac{1}{8}$  or  $1\frac{1}{4}$  inches wide, come so near barring out burr and brace combs that the occasional spurs built during an excep-

tional run of honey will cause no trouble; therefore for the year 1895 our thick top-bars will be  $\frac{5}{8}$  instead of  $\frac{7}{8}$ , with the same guide-edge as we had on our frames of last season, herewith shown. The frames will be identical-



ly the same, with the exception that the ends of the top-bars will be notched, to afford more finger room, as on the  $\frac{5}{8}$ -deep top-bars of this season.

THE FLAT COVER, AND ITS WARPING TENDENCIES.

When Mr. Calvert visited the Leahy Manufacturing Co., at Higginsville, Mo., he was so favorably impressed with what is called the Higginsville hive-cover, that, on his arrival home, he proposed that we adopt it in preference to the flat. After he had explained its construction—that is, its latest form—I felt pleased with it, as I know every one else will be. It is too late to get out illustrations for this number; but it is made like the one illustrated and described on page 406 of last year's volume, with this difference, that the ends of the gable-boards are rabbeted to  $\frac{5}{8}$  inch and let into a corresponding groove of the cover-cleat. We have quite fully decided to make it the leader for another year; and I understand that the W. T. Falconer Mfg. Co. have decided upon the same course. So far as we and the latter company are concerned, it will be made under royalty. There is no patent on it; but the Leahy Mfg. Co. really deserve to be remunerated for bringing out something that is even better than the flat cover, and that is saying a great deal. In most northern localities, certainly in our own, there is but little trouble from this (the flat cover) warping and winding; but in hot climates, and in all of the South, it has been found that it will wind a little, and, in some cases, check. The Higginsville is made of two pieces of wood; and being a gable cover, flat on the under side, it will be far better; and, if I am correct, where it has been tested in the most severe climates it has stood the test well.

Of course, there are those who will prefer the flat cover; but I do not know of a single advantage it has over the Higginsville model. But all of our customers can have the option of the flat cover if they desire.



## ON THE WHEEL.

Tuesday, Oct. 9, finally came to hand; and after the hurry and planning for an absence of a month or more, I settled down on the seat in the car with a real relish for a little rest. The autumn tints on the foliage of the forests seemed especially soothing, as they reminded me of a holiday away back in boyhood, and I was now off for a holiday indeed—yes, a holiday of a whole month.

I enjoy traveling in almost any shape; and while one does not get the same kind of exhilaration on the cars as on the wheel, yet I always enjoy looking over our native land and catching even the passing glimpses of such scenes rushing past, the passing glimpses of "our homes," the homes of the great masses.

At Crestline, O., I saw a sign decorating the window of a saloon, that should make every man and woman in Ohio blush; yes, the whole United States ought to feel ashamed to think that such a thing should disgrace our land. Right close to the depot, where every passenger on the train has it in full view, we see in large, plain, glaring letters—"A Good Drink of Whiskey, only 5 cts." The man who is so low down as to have the above painted on his large glass windows has some sort of a feeble excuse that he does it to make money; but is there another in the whole wide country who has the hardihood to comment on such a thing? I am astonished that Crestline has not before this held an indignation meeting, and declared the thing should not be, exactly as if some one persisted in having the smallpox right in the center of the town.

I left the cars at East St. Louis, and took my wheel, with my baggage all strapped on it, and, after quite a little ride in the cool of the morning, came to the great bridge across the Mississippi. Foot passengers go back and forth free; but you have to pay 15 cts. for taking a wheel across, even if you walk by its side. I presume this is because they have decided a wheel to be a "vehicle." It is true, the rubber tires do not "wear out" a bridge to any very great extent; but you see somebody must help pay for it, and perhaps owners of wheels can do it as well as anybody.

One reason for riding over on the wheel was, that I wanted to stop and look the bridge over to my full satisfaction. It is a wonderful piece of work, and is a credit to the engineering skill of *any* age. When I got my first glimpse of the new Union Depot of St. Louis, I was more astonished than at the bridge. It covers four city blocks, if I am correct, and cost \$6,500,000. Don't be startled, and don't think the printer has made a mistake in the figures. I really didn't know there was any thing like it on the face of the earth; but there it is, and it is really a great blessing to the throngs of humanity that are constantly going in and out. Not only is every thing clean, neat, and tidy, but the architectural beauty is just wonderful; in fact, I am told that it is the finest and most perfect railroad depot on the face of the earth. Courteous officials are everywhere, and a traveler can hardly go wrong or miss his train, even if he were ever so stupid. Do you say, "Oh! this is all very fine for those who have plenty of money, etc.?" Not so. The regular price of dinner in this great fine dining-room is only 25 cents, and a very plain placard so announces it to everybody. I felt like saying, and

say now, "Thank God for the example they are setting our people." In all my travels during the past weeks, I have only once paid more than 50 cents for my dinner. This once was at a dining-station at Bellefontaine, Ohio. There the price was 75 cents, and they piled around one's plate a great lot of expensive dishes—more than *any one ought* to eat. A runner told me it really seemed wicked, and made him feel guilty, to see the food wasted that was paid for every day, and couldn't be made any use of. Enough is wasted right along to feed almost all the hungry—at least all the *deserving* hungry. When I first reached the town of Lebanon, where I am now staying, I got an excellent supper at a hotel, and the price was only 20 cents. The proprietor said he wanted to make his price correspond with the low prices of corn, wheat, etc. The farmers' institute is now in session, and at the above price the farmer who attends needn't feel guilty if he goes and buys his dinner instead of fussing to take it with him.

Just before night, John and I stopped off at Pleasant Hill, Mo., where we found George M. Kellogg awaiting us. Friend K. has 25 large greenhouses devoted entirely to cut flowers, and he markets them in almost every large city in Missouri. His immense plant is the growth of an enthusiasm of only a few years past, in this direction. He has 60,000 feet of glass, and perhaps the largest plant of the kind west of the Mississippi. Some of our readers may remember him as a writer for the bee-journals in former times, and, in fact, he keeps some bees at present; but, of course, they can not receive much attention with this other great enterprise on his hands. At least a dozen large houses are devoted to roses and nothing else. I want to call attention to a fact of much importance to greenhouse men and gardeners. Friend K. supports all his beds and all his glass structures on stakes and posts made of the osage-orange hedge-plants. It never rots, even when driven into damp warm earth; and, unlike the iron pipes I have advised, you can hew, saw, or drive nails into it. Abundance of the material can be taken from overgrown hedges scattered (oftentimes to our sorrow) all over our land. Another thing, a hen and chickens are a perfect remedy for snails in a greenhouse or anywhere else among your plants.

## THE NORTH AMERICAN BEE-KEEPERS' CONVENTION DURING THE FIRST DAY.

So far (Oct. 11) we have had a very pleasant time. Pres. Abbott, with Benton, Dr. Miller, "W. Z. H." York, Holtermann, Christopher Grimm, Dadant, and others are making things lively. T. B. Terry got in late in the evening, but Pres. Abbott found time enough for him to give the bee-keepers a brief résumé of one of his clover talks. Dr. Miller gave us a song and one of his "select" readings; a gentleman and lady of the city each also favored us with a song, closing with a couple of fine pieces by a celebrated violinist. The Missouri bee-keepers are not out as we should like to see them, but more may come to-day. Kansas and Nebraska are pretty well represented. Quite a few old friends who have taken GLEANINGS almost ever since it was printed by the windmill are on hand with warm greetings. Six different bee-journals are represented by their respective editors. The city of St. Joseph has given us, free of charge, the use of the finest hall, beautifully seated, that was ever tendered the N. A. B. K. A. since its inauguration. Every one of the audience is furnished a richly cushioned arm-chair. Porters in constant attendance are free. The hall comes from the Commercial Club, of the city.

## A NEW USE FOR TAXIDERMY.

It is a little funny that so many bee-keepers are devotees of natural science, and especially in the line of natural history. Boardman and France have each of them collections of stuffed birds and animals that might honor a museum; but a little incident aroused me to the *utility* of this science while visiting the first-mentioned gentleman. We had just returned from the fishing-trip I mentioned in my last; and as his nice young team brought the easy carriage round up to the porch, I noticed a chicken-hawk standing out in the yard, where his poultry were standing off at a safe distance and scolding and expressing their indignation at having their born enemy so near.

"Why, friend B., what is that hawk doing there in your dooryard?"

"That hawk? Why, he is keeping the chickens off the porch and the stone walks. He is the cheapest help I can possibly get to do the work."

Then he had a good laugh, to see that I at first took his handiwork to be a real live hawk. I took in at a glance the possibilities of his invention, and went on.

"Why, look here! that bird would keep chickens and all feathered thieves from your cherries, strawberries, or any thing else, and would save his value over and over. Have you not tried him for this purpose?"

"Why, to be sure I have; and that is one of the things I kept forgetting to tell you about. He has been out in the sun and rain now for two years past; during the warm weather, and during strawberry time, it would have delighted you to see the big 'indignation meeting' held day after day by all the birds in the neighborhood. They never get a berry of mine, from the fact that they spend all their time quarreling with him. He, however, takes it very philosophically, never fighting back, even though they go so far sometimes as to pluck the feathers from his back."

I wondered that the chickens around the house did not in time discover the fraud; but, even if they did, they seemed to think best to give him a wide berth.

Now, then, friends, here is a wonderful discovery. If you don't realize it, just purchase for your wife a stuffed hawk, set it on a cast-iron base, so he won't blow over, and show her that she can keep chickens off the walks and porches, without the trouble of fencing them off and keeping gates shut. Now, this doesn't end here. The taxidermist can furnish the natural enemy of any of the animal kingdom; and who knows but that a great enterprise may be builded up in the "scarecrow" business? When you shoot hawks and owls, don't throw them away, but turn them over to some boy who has a fondness for the business. With the aid of the proper books, one can soon learn how to put them up so they will be durable. Prepared skins of hawks may also be purchased at low prices in many of our large cities.

## LIFE AMONG THE POOR IN NEW YORK.

## A WARNING TO COUNTRY BOYS.

By Rev. W. T. Elsing.

[The first two paragraphs of the following will explain why this very interesting article on this subject appears in our columns. The flocking of the masses from the country to the great cities and large centers is getting to be a serious matter indeed, and I trust this article

will be read carefully, by the boys at least. The colony referred to was sent along last summer, and it is to be hoped that it will help to carry light and life to some portions of "Darkest New York."—ED.]

It may interest the readers of GLEANINGS to learn how a city missionary comes to write an article for a bee-journal. Ever since I have been a missionary I have been trying to show the people among whom I live something besides brick walls, stone sidewalks, and dirty streets. I have, once a month given a lecture or sermon about some object in nature. Among other things I have preached about ants and bees. My readings about bees made me curious to see the inside of a hive. At the World's Fair I visited the corner in the gallery of Agricultural Hall, where the bee-supplies were located. I made the acquaintance of some farmers; and when I was tired out sight-seeing I enjoyed talking with the bee-keepers. When these good men learned that I was a minister in the most crowded part of New York, and interested in bees, they were always ready to give me points. Every one with whom I talked said, "If you want to know about bees and bee-keepers you must get Root's A B C book and GLEANINGS IN BEE CULTURE." So many people spoke about "Bro. Root" that I became desirous to meet him, and called several times, but never had the pleasure of seeing him. I met Dr. Mason, and he informed me that Bro. Root was always glad to send GLEANINGS to ministers and missionaries.

On returning to New York I received the magazine, and my interest in bees increased. I wanted a colony of real live bees, so that I might see them at work, and take some of them to my church when I gave the next lecture; but when I thought of the suffering around me, and listened daily to appeals for aid, when I heard women and children crying for bread, I did not feel that it was right to spend money for any thing which I did not absolutely need. I wanted the bees, but did not feel like spending the money. I wrote to Bro. Root about my difficulty, and proposed that we "swap" a short article on tenement-house life for a colony of bees.

The terms were agreeable, and this is how it comes about that a city missionary writes for a bee-journal. I propose to give the readers of GLEANINGS some account of life among the lowly in a great city.

The great tenement houses remind me of bee-hives. Probably most of the readers of GLEANINGS have supposed that London is the most crowded city in the world, and they will be astonished to learn that in some parts of New York the population is more than twice as dense as in London. In the most crowded part of London there are 170,000 people to the square mile; but in the most crowded part of New York there are 345,000 to the square mile. The graves of the silent dead in the cemetery are not more closely crowded together than the active moving bodies of the living. When a fire breaks out, or some excitement occurs in lower New York, the people pour out of these human hives in vast multitudes, and blacken the streets as far as the eye can see. It seems as if every brick in the wall and every cobble-stone in the pavement had suddenly become a living, moving, restless human being. If all the people in the tenement-house districts were suddenly to become possessed with the desire to swing their arms in the air they would not have elbow room, but would strike each other in the face.

I have recently gone through one of these immense hives, 200 by 60 feet, and found, by

actual count, two hundred families; or, counting five to a family, 1000 persons living in one house.

For the past ten years I have daily gone in and out of these homes. I have seen enough sin and misery to make my heart sick. I have also found in these homes a good deal of sunshine. On the slopes of the high mountains in Switzerland I have found beautiful flowers growing right on the edge of perpetual snow-fields, and in these great tenement houses I have found some of the rarest and choicest virtues.

The ordinary tenement house contains five stories. Four families live on a floor. Each occupant usually has a kitchen and two dark bedrooms. For the three rooms they pay from \$10 to \$12 per month. So far as the exterior is concerned, the tenements are often as much alike as the bee-hives in a large apiary; but when you leave the hall and enter the apartments the difference is very great. In one room you may find dirt and dinginess, and bad odors enough to sicken you; while right across the hall you may find a little home which is a model of neatness. A great many of these people live in tenement houses from necessity rather than choice.

New York is hemmed in on all sides by water. Manhattan Island is long and narrow. There is no room to spread as in Philadelphia and Chicago. The only direction in which men can build is heavenward, and each year the houses are built higher. If there were no law to prevent it, the tenement houses would be fifteen or twenty stories high, instead of five and a basement. A vast number of workingmen prefer to travel an hour every morning and evening on the ferry-boats, street-cars, and elevated trains, to living in this crowded condition; but where there are two or three children working for small wages, they can not afford the necessary traveling expenses.

It is literally true, that there are thousands of poor children in lower New York who have never seen a tree or a blade of green grass. The only possible way to get a sight of nature is by going to the parks.

When poor widow women are sewing shirts and overalls for 29 cents per dozen, and are obliged to work ten or twelve hours for 25 cents, it is impossible to pay street-car fare so as to reach the parks. Through the *Tribune Fresh-air Fund* several thousand children are each year sent into the country; but a far larger number do not leave the dark courts and alleys during the entire year. The average earnings of unskilled laborers are from ten to twelve dollars per week. This may seem like big wages to men in the country; but at least one-fourth of a workingman's wages goes for rent. Every thing the family eats must be bought—no one has a little garden; and if occasionally some lover of poultry tries to keep a few chickens in the back yard, he will first have to kill chanticleer; and although no neighbors are awakened by the prophet of the morning, if the Board of Health should hear that a quiet flock of biddies live in some secluded back yard, a veto is soon put on such proceedings. There are so many expenses that it is utterly impossible for an unskilled laborer to get ahead in a large city. I know several good, faithful, sober, hard-working men who are just as poor as they were ten years ago. When the ordinary income is cut off, through sickness or want of work, hunger and an urgent landlord stare the workingman in the face.

The only hope for poor but thrifty working people lies in their children. The boys, who are educated in the public schools, and who often get places in stores and offices, sometimes

have fine opportunities to rise in the world. The girls are at a decided disadvantage. Shop life is the curse of many a poor young woman. Our city girls would rather work in a box or tobacco factory, or even in a rag-shop, than take places as domestic servants in good families. The balls and theaters are generally running full blast, and there the shop-girl often meets her company. I have seen girls leave the shop the day before their marriage, bright, pretty, and full of life. They took up the care of a house without knowing even the first principles of housekeeping, and in three or four years they degenerated into slatternly, slovenly, middle-aged women.

The efforts now being made to give industrial training, and to teach the art of housekeeping in the public schools, will confer vast benefits on the homes of the future.

The evils of life in a great city are so numerous that a host of organizations are constantly at work among the densely populated tenement houses to elevate, civilize, and Christianize, or humanity would fester and rot in the densely crowded parts of the town. The saloons, the gambling-houses, the policy-shops, the dens of vice, the low theater and dance-hall, are dragging thousands down to destruction every year. The churches, Sunday-schools, city missions, children's aid societies, girls' friendly societies, young men's Christian associations, college settlements, free reading-rooms and libraries, are saving thousands. The work of destruction and salvation are prosecuted with equal intensity. In the city you have the worst and the best men. The most hellish and most heavenly work constantly, going side by side.

One remarkable peculiarity about life in New York is the way in which various nationalities flock together. We have Italian, Chinese, Syrian, French, Jewish, Irish, and Bohemian quarters. In the neighborhood of my church we have a vast multitude of Jews. The Jewish invasion is quite recent. Ten years ago we saw a Jewish sign or Jewish face occasionally; but now we see almost nothing but Jews. I opened a service for Jews in my church four years ago, and every Saturday afternoon we have from four to five hundred men present. We usually have to close the doors, because we can not accommodate all who come.

The distress in New York at present is frightful. In ordinary times the poor help each other, and in ten years a case of starvation has not come under my observation. This fall, however, it is different. A few days ago one of our missionaries found a poor Italian family in an awful condition. The children were lying on the floor, moaning for food. The poor father, in despair, was crying. He was unable to speak English. He had sought in vain for work, and was longing for death to end his misery. Our beef tea and provisions worked wonders for three of the children; but one poor little child was so exhausted that it could take no nourishment, and died two days after the food came. I sent an Italian doctor to the home, and he said the child had died of starvation.

A short time ago I called at the home of a widow. I was afraid she was suffering, and said, "I do not want to be curious, but I should like to know what you are going to have for dinner. Will you let me see what you are cooking?"

She took the lid from a small dish which contained one solitary potato! She said, "I was afraid I might have to go hungry to-day; but God is good to me, and my neighbor has just brought me this potato."

To relieve the present distress, a few workers in the tenement-house district organized a

work relief society. Our object is, to give relief by work. We commenced in November, setting fourteen men at work on the streets. At present we have eight hundred men cleaning the streets. We have also opened five tailoring shops, and recently started a whitewash brigade. At present two hundred men are employed at whitewashing dark alley cellars and dirty courts. Thirteen hundred heads of families are in this way receiving \$1.00 per day. This is infinitely better than giving them charity.

I believe that, if the young men who are earning a comfortable living on the farm understood even a small part of the hardships and misery the poor have to put up with in the cities, they would think twice before they exchanged a rural for an urban life. My great desire is, to open a farm-school where city boys, too old to learn a trade, might be taught the first principles of practical farming, and thus get them out of the overcrowded city into the better and more independent life of the country. I wish that all the young men in the country, who are eagerly planning to leave the farm, could go up and down the Bowery with me and see the eight thousand men who sleep in the cheap lodging-houses every night. They find it absolutely impossible to secure work at present. Hundreds have not even fifteen or twenty cents to pay for a night's lodging. I called on the superintendent of the Bowery branch of the Young Men's Christian Association a few days ago, to consult with him about opening my church at night, as a shelter for homeless men. He immediately asked me about our bathing facilities. I informed him we had no baths connected with the church. He said, "Unless you can fumigate the men's clothing every night, and give every man a bath, your church will soon be alive with vermin." That plainly shows the fearful condition which many of these poor fellows are in. A few weeks ago we found a young German nobleman, who had diplomas from three universities, in one of these Bowery lodging-houses.

My advice to all young men is, let well enough alone. If you have a rich uncle or good friend in the city who will give you a chance in his establishment, well and good; if not, stick to your farm and take care of your bees.

## GERMAN OR BELGIAN HARES.

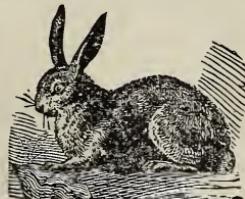
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EASILY RAISED IN HUTCHES.

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Write me for prices, how to breed, and what to feed.

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So. Bethlehem, - N. Y.



In responding to this advertisement mention GLEANINGS.

CHAS. ISRAEL & BROS., 110 Hudson St., N. Y.

WHOLESALE DEALERS & COMMISSION MERCHANTS.  
Established 1875.

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LIBERAL ADVANCES MADE ON CONSIGNMENTS.

BUFFALO, N. Y. Unsurpassed Honey Market  
BATTERSON & CO. Responsible, Reliable,  
Commission Merchants. 18tdb and Prompt.

## Attention, Bee-keepers!

Remember Jennie Atchley will mail you untested queens any day in the year for \$1.00. She is now preparing to fill your orders for queens and bees in 1895.

January to June prices: Untested, \$1.00, 6 for \$5.00, \$9.00 per doz. Tested, 3-banded, \$1.50; 5-banded, \$2.50. Tested Carniolans, \$2.50. I will rear the leather-colored Ital's, or 3-banded; silver-gray Carniolans, and 5-banded, in separate yards at safe distance. Bees by the pound, \$1.00. Nuclei, per frame, \$1.00. This is one of my specialties.

Write me for prices on large lots and to the trade. Catalog ready Jan. 1.

I have been at this business long enough to know how to ship, and please customers.

All Bee Supplies. Dovetailed Hives, Root's Goods, and Dadant's Foundation. Figure out what you want, and write for estimate.

Jennie Atchley,  
Bee Co. Beeville, Tex.



500 YOUNG FERRETS  
Now ready to ship at only \$3.00 a pair. Price list of Bees and Ferrets free. N. A. Knapp, Rochester, Lorain Co., O.



## Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All advertisements intended for this department must not exceed five lines, and you must say you want your adv't in this department, or we will not be responsible for errors. You can have the notice as many lines as you please, but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges or cash, for prices, lists, notices, offering articles for sale, can not be inserted under this head. For such our regular rates of 20 cts, a line will be charged, and this will be put with the regular advertisements. We can not be responsible for dissatisfaction arising from these "swaps."

WANTED.—To exchange supplies and other goods for honey. O. H. HYATT, Shenandoah, Iowa. 20tf

WANTED.—To exchange a Noxal 200-egg incubator, used 3 settings, at \$15, comb foundation at market price, and extracted honey at 8c, for honey boards, supers, and brood-frames, cut to order.

R. C. AIKIN, Loveland, Col.

WANTED.—To exchange several good safety bicycles. Honey wanted. Send sample. J. A. GREEN, Ottawa, Ill.

WANTED.—To exchange 200 colonies of bees for any thing useful on plantation.

ANTHONY OPP, Helena, Ark.

WANTED.—To exchange good country store (stocked) and P.O., with 8 first-class living-rooms annexed, 50 colonies bees, good honey-house and barn, for village property of some kind.

A. CARTER, Walton, Mich.

WANTED.—Choice evaporated or dried peaches and apricots. Mail small sample if you can furnish any cheap.

N. E. DOANE, Breckenridge, Gratiot Co., Mich.

WANTED.—What have you got to exchange for new extract or, never used? ED. WEIDNER, Earlville, Ill.

WANTED.—To exchange 18 volumes of Gleanings in Bee Culture, from 1875 to 1895; 6 of the vols. lacking a few Nos.; 7 vols. of Bee-keepers' Review, 1888 to 1895; 2 vols. of Bee-keepers' Exchange, lacking 2 Nos.; 2 vols., V., VI., Bee-keepers' Magazine; 4 vols., from 1883 to 1887, of the Illustrirte Bienenzeitung, for honey.

HENRY OTTO, Independence, Iowa.

## CONVENTION NOTICES.

The Western Washington Bee-keepers' Association will hold its next session in the Horticultural Rooms, City Hall, Tacoma, Wash., Nov. 12. G. D. LITTOOY, Sec., Tacoma,

The Southwestern Wisconsin Bee-keepers' Association will meet in the Opera House, Montfort, Wis., Nov. 14, 15, 1894. A. A. ARMS, Sec.

The next regular meeting of the Central California Bee-keepers' Association will be on the first Wednesday in December, at Hanford, Cal. J. F. FLORY, Sec., Lemoore, Cal.

Let everybody come to the Midwinter bee-meeting, Beeville, Tex., Dec. 27 and 28. Half fare on all railroads. No hotel bills. The meeting will be at Mrs. Jennie Atchley's apiary, two miles north of Beeville. JENNIE ATCHLEY.

The next annual convention of the Vermont Bee-keepers' Association will be held in Middlebury, Vt., Dec. 29, 31, 1894. Programs will be prepared and mailed later. Let every bee-keeper, whether Vermonter or not, begin now to lay his plans to attend this meeting. H. W. SCOTT, Sec., Barre, Vt.

The Indiana State Bee-keepers' Association will hold its 15th annual meeting at the Statehouse, Indianapolis, Jan. 9th, 1895. There will be three sessions. Several other associations will convene here at the same time, thus securing  $\frac{1}{2}$  fare for the round trip; but a certificate must be asked for when buying your ticket. Programs will be ready in December. WALTER S. PODER, Pres., Indianapolis.

The Illinois State Bee-keepers' Association will hold its regular annual meeting at the Statehouse, Springfield, Nov. 13 and 14, 1894. This change in the time has been made in order to secure reduced railroad rates of  $\frac{1}{2}$  fare for the round trip. The National and State Granges both meet at the same time and place, and arrangements are made for the same person to sign all the certificates, which must be asked for when the ticket is purchased. Hotel rates will also be secured. JAS. A. STONE, Sec., Bradfordton, Ill.

## KIND WORDS FROM OUR CUSTOMERS.

The Burpee bush lime was far ahead of expectations. E. E. EDWARDS.

Alexandria, Ind., Sept. 12.

The goods I ordered from you have been duly received, and I am pleased to state that I am much satisfied with them, and will always give you my patronage. A. H. GROVES.

Bash, Jamaica, W. I., Aug. 20.

I received the labels all right, and I must say I was more than pleased with them. I like your style, taste, and design in putting them up. I would say to all who wish nice tasty labels, that they had better give Bro. Root a chance at them. I will guarantee they will be more than pleased with them. G. W. REAM.

Franklin, Tenn., Sept. 13.

## ROOT'S GOODS.

I took a flying visit to M. H. Hunt's, July 31. I found Mr. H. a good genial fellow. He soon took his departure on business, leaving his guest in charge of Chester Thompson, who, by the way, is a kind fellow who likes to show up Root's goods, and talk on the subject of bees. Well, I saw every thing needed in an apiary. Those polished sections are beautiful; the Crane smoker is immense; Hoffmann frames are equally handy. Chester has every thing nicely arranged—all handy to show. He says Root's goods are the best, and he ought to know, for he is threescore and ten—hale, sound, and hearty. But that is not all Chester can do. He raises bush lime beans. They look fine—as well as the rest of the garden. CHAS. BIERY.

Northville, Mich., Aug. 7.

## AN EXCEEDINGLY KIND CRITICISM.

Mr. Root:—In GLEANINGS for Sept. 1, page 700, you class all persons who use tobacco as loafers. Now, Mr. Root, you say a great deal. Is not your mantle of charity a little on *sized*? I know a great many good honest business men, and I think good Christians, who use the filthy weed—men who are openhearted in charities. I have been a reader of GLEANINGS for many years, and could not well get along without it; and I like to read your exhortations and sermons; and, in fact, I peruse the whole of it very carefully, and find many good things in it. But when you raise your ax to strike, you must keep very close to the line. Let the good

Master be our judge, not feeble and selfish man. I will not give you my name at this time. But I will remind you of this when I see you again. May God speed you in the right line of duty.

A FRIEND.

[Dear unknown friend, the man who could not take such a very kind and friendly criticism as yours must be stubborn indeed; and before I go any further I wish to thank you for your very kindly warning. When I turn to page 700, however, all I can find is the following: "There were no nasty spittoons, and there were no loafers chewing and spitting, and puffing tobacco smoke in your face." I am sure this does not by any means say that *all* tobacco-users are loafers. In fact, I had no such thought in mind, for I know better; but I still think that smoking and chewing tobacco is the inevitable adjunct of a loafer, if not his marked peculiarity. Some of my very best friends are users of the weed, and I should be exceedingly sorry to hurt their feelings by any thing unfriendly or uncourteous. Nearly all of them admit, however, that tobacco-using is not a thing to be commended or encouraged. In fact, I never knew a good man who wanted his boy to use it. Many contracted the habit years ago, perhaps in youth, and find it just now very difficult and inconvenient to break off. What I had in mind was this: In traveling I go into many fine hotels. I admire the arrangements for the comfort of traveling people who are obliged to be away from home. Of course, the use of tobacco is not permitted in all the rooms of these fine hotels; but it seems to be permitted and encouraged in the hotel office. In fact, the fine hotel at Lakeside was, so far as I can remember, the only real nice hotel where there was not a case of cigars near by the desk. Since you remind me of it, I admit that the quotation I made above was a little severe and sweeping; for in our best hotels the real loafer is not, as a rule, tolerated. Those who smoke are often, as you say, exceedingly busy men, and very often men of great ability—not, however, *because* of tobacco, but *in spite* of its awful effects. I will try, dear brother, to be more careful, and to let God be our judge. Your closing kind words, coming as they do after your kind rebuke, fairly touch my heart.]

A. I. R.

## TAKE NOTICE!

BEFORE placing your orders for SUPPLIES, write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. 87tdb

PAGE & KEITH,

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If you keep BEES, subscribe for the Progressive Bee-keeper, a journal devoted to Bees, Honey, and kindred industries. 50 cts. per year. Sample copy,

also a beautifully illustrated catalogue of Bee-keepers' supplies, FREE. Address

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Bee-keepers, look to your interests. Every thing in the line of bee-supplies constantly on hand. Price list free. GREGORY BROS. & SON, 1-230

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## Cash for Beeswax!

Will pay 22c per lb. cash, or 25c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 30c per lb., or 32c for best selected wax. Old combs will not be accepted under any consideration.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.